



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

NYPL RESEARCH LIBRARIES



3 3433 01101541 3

QMP
WILSON

ANNE

CONSTABLE'S MISCELLANY.

LIST OF WORKS ALREADY PUBLISHED.

Price 3s. 6d. each Volume, cloth boards; or, on fine paper, 5s.

- Vols. I. II. III. CAPT. BASIL HALL'S VOYAGES.
IV. ADVENTURES of BRITISH SEAMEN in the Southern Ocean. By Hugh Murray, Esq. F.R.S.E.
V. MEMOIRS of LA ROCHEJACQUELIN. With a Preface and Notes. By Sir Walter Scott, Bart.
VI. VII. CONVERTS from INFIDELITY. By Andrew Crichton.
VIII. IX. SYMES' EMBASSY to the KINGDOM of AVA. With a Narrative of the late Military and Political Operations in the Birman Empire.
X. TABLE-TALK; or SELECTIONS from the ANA.
XI. PERILS AND CAPTIVITY.
XII. SELECTIONS of the MOST REMARKABLE PHENOMENA of NATURE.
XIII. XIV. MARINER'S ACCOUNT of the Natives of the TONGA ISLANDS, in the South Pacific Ocean.
XV. XVI. HISTORY of the REBELLIONS in SCOTLAND in 1745, 1746. By Robert Chambers.
XVII. VOYAGES and EXCURSIONS in CENTRAL AMERICA. By Orlando W. Roberts.
XVIII. XIX. The HISTORICAL WORKS of FREDERICK SCHILLER, from the German. By George Moir, Esq. Translator of "Wallenstein."
XX. XXI. An HISTORICAL VIEW of the Manners, Customs, Literature, &c. of Great Britain, from the time of the Saxons, down to the 18th Century. By Richard Thomson.
XXII. The GENERAL REGISTER of Politics, Science, and Literature, for 1827.
XXIII. LIFE OF BURNS. By J. G. Lockhart, LL.B.
XXIV. XXV. LIFE OF MARY, QUEEN of SCOTS. By Henry Glassford Bell, Esq.
XXVI. EVIDENCES of CHRISTIANITY. By the Venerable Archdeacon Wrangham.
XXVII. XXVIII. MEMORIALS of the late WAR.
XXIX. XXX. A TOUR IN GERMANY in 1820, 1821, 1822. By John Russel, Esq. Advocate.
XXXI. XXXII. HISTORY of the REBELLIONS in SCOTLAND, under Montrose and Others, from 1638 till 1660. By Robert Chambers, Author of "The Rebellion of 1745."
XXXIII. XXXIV. XXXV. HISTORY of the REVOLUTIONS in EUROPE. From the French of C. W. Koch.

Works already Published.

XXXVI. XXXVII. A PEDESTRIAN JOURNEY through RUSSIA and SIBERIAN TARTARY. By Captain John Dundas Cochrane, R.N.

XXXVIII. NARRATIVE of a TOUR through NORWAY, SWEDEN, and DENMARK. By Derwent Conway.

XXXIX. HISTORY OF SCULPTURE, PAINTING, and ARCHITECTURE. By J. S. Memes, LL.D.

XL. XLI. HISTORY of the OTTOMAN EMPIRE. By Ed. Upham, Esq. Author of "The History of Buddhism," &c.

XLII. The HISTORY of the REBELLIONS in SCOTLAND, under Dundee and Mar, in 1689 and 1715. By Robert Chambers, Author of "The Rebellion in Scotland in 1745," &c.

XLIII. XLIV. HISTORY of the MOST REMARKABLE CONSPIRACIES connected with European History. By John Parker Lawson, M.A.

XLV. The NATURAL HISTORY of SELBORNE. By the late Rev. Gilbert White, M.A. A New Edition, with Additions by Sir William Jardine, Bart., Author of "Illustrations of Ornithology," &c.

XLVI. An AUTUMN in ITALY, being a NARRATIVE of a TOUR in the AUSTRIAN, TUSCAN, ROMAN, and SARDINIAN STATES, in 1827. By J. D. Sinclair, Esq.

XLVII. XLVIII. The LIFE of OLIVER CROMWELL. By M. Russell, LL.D.

XLIX. LIFE of HERNAN CORTES. By Don Telesforo de Trueba y Cosio, Author of "The Castilian," &c.

L. LI. HISTORY of CHIVALRY and the CRUSADES. By the Rev. Henry Stebbing, M.A.

LII. HISTORY of MUSIC. By W. C. Stafford.

LIII. LIV. LIFE of SIR WILLIAM WALLACE of ELDERSLIE. By John D. Carrick.

LV. LVI. LIFE of KING JAMES the FIRST. By R. Chambers, Author of "The Rebellious in Scotland," &c.

LVII. LVIII. LIX. MEMOIRS of NAPOLEON BONAPARTE. From the French of M. de Bourrienne. By J. S. Memes, LL.D. Author of the "History of Sculpture, Painting, and Architecture," &c.

LX. LXI. HISTORY of the WAR of INDEPENDENCE in GREECE. By Thomas Keightley, Esq. Author of "Fairy Mythology," "Outlines of History," &c.

LXII. HISTORY of the CONQUEST of PERU by the SPANIARDS. By Don Telesforo de Trueba y Cosio, Author of "The Life of Hernan Cortes," &c.

LXIII. LXIV. The ACHIEVEMENTS of the KNIGHTS of MALTA, from the Institution of the Hospitallers of St John, in 1099, till the Political Extinction of the Order, by Napoleon, in 1800. By Alex. Sutherland, Esq.

LXV. JOURNAL of a RESIDENCE in NORMANDY. By J. Augustus St John, Esq.

LXVI. LXVII. SWITZERLAND, FRANCE, and the PYRENEES, in 1830. By Derwent Conway.

AMERICAN ORNITHOLOGY.

AMERICAN ORNITHOLOGY;

OR THE

NATURAL HISTORY

OF

THE BIRDS OF THE UNITED STATES.

BY ALEXANDER WILSON,

AND CHARLES LUCIAN BONAPARTE.

EDITED BY

ROBERT JAMESON, Esq. F.R.S.E.&L. F.L.S. M.W.S.

REGIUS PROFESSOR OF NATURAL HISTORY IN THE UNIVERSITY -

OF EDINBURGH, &c.

IN FOUR VOLUMES.

VOL. II.

EDINBURGH:

PRINTED FOR CONSTABLE AND CO. EDINBURGH;

AND HURST, CHANCE, AND CO. LONDON.

1831.)

EDINBURGH :
Printed by ANDREW SHORTREED, Thistle Lane.

CONTENTS OF VOLUME SECOND.

	Page
American Crossbill	286
American Redstart,—adult male	65
American Redstart,—young bird	68
American Shrike, or Butcher bird	81
Autumnal Warbler	162
Bank Swallow, or Sand Martin	50
Barn Swallow	38
Bay-breasted Warbler	138
Bay-winged Bunting	245
Black and White Creeper	157
Black and Yellow Warbler	131
Blackburnian Warbler	132
Black-capt Titmouse	215
Black-poll Warbler,—female	150
Black-poll Warbler,—male	149
Black-throated Blue Warbler	142
Black-throated Bunting	242
Black-throated Green Warbler	126

	Page
Blue Bird	171
Blue-eyed Yellow Warbler	141
Blue Green Warbler	154
Blue Grosbeak	278
Blue Mountain Warbler	147
Blue-winged Yellow Warbler	167
Blue Yellow-back Warbler	159
Brown Creeper	196
Brown-headed Nuthatch	204
Brown Lark	178
Cærulean Warbler	143
Canada Flycatcher	134
Cape May Warbler	133
Cardinal Grosbeak	273
Carolina Pigeon, or Turtle Dove	290
Cat Bird	100
Chestnut-sided Warbler	139
Chimney Swallow	23
Chipping Sparrow	255
Chuck-Will's Widow	3
Connecticut Warbler	160
Crested Titmouse	217
Ferruginous Thrush	116
Field Sparrow	250
Fox-coloured Sparrow	270
Golden-crested Wren	182
Golden-crowned Thrush	123
Golden-winged Warbler	168
Great Carolina Wren	191
Great Crested Flycatcher	59

	Page
Green Black-capt Flycatcher	146
Green, Blue, or White-bellied Swallow	48
Ground Dove	304
Hemlock Warbler	148
Hermit Thrush	120
Hooded Flycatcher	135
House Wren	184
Humming Bird	206
Indigo Bird	236
Kentucky Warbler	151
Lesser Red-poll	267
Loggerhead Shrike	86
Louisiana Tanager	235
Marsh Wren	194
Maryland Yellow-throat,—female	146
Maryland Yellow-throat,—male	144
Migratory Pigeon	293
Mocking Bird	88
Mourning Warbler	140
Nashville Warbler	170
Night Hawk	6
Painted Bunting	239
Pewit Flycatcher	61
Pine-creeping Warbler	154
Pine Finch	265
Pine Grosbeak	283
Pinnated Grouse	320
Pine Swamp Warbler	161
Prairie Warbler	152
Prothonotary Warbler	164

	Page
Purple Finch	280
Purple Martin	32
Quail, or Partridge	309
Red-bellied Black-capt Nuthatch	202
Red-eyed Flycatcher	77
Robin	112
Rose-breasted Grosbeak	277
Ruby-crowned Wren	180
Ruffed Grouse	314
Savannah Finch	250
Savannah Sparrow	249
Scarlet Tanager	226
Sea-side Finch	261
Sharp-tailed Sparrow	260
Shore Lark	219
Small Blue Gray Flycatcher	156
Small Green Crested Flycatcher	60
Small-headed Flycatcher	163
Snow Bird	256
Snow Bunting	221
Solitary Flycatcher	75
Song Sparrow	253
Summer Red-bird	231
Swamp Sparrow	246
Tawny Thrush	122
Tennessee Warbler	169
Towhe Bunting	271
Tree Sparrow	252
Tyrant Flycatcher, or King Bird	52
Water Thrush	125

CONTENTS.

ix

	Page
Warbling Flycatcher	76
Whip-Poor-Will	12
White-breasted Black-capt Nuthatch, or Carolina Nuthatch	199
White-crowned Bunting	244
White-eyed Flycatcher	79
White-throated Sparrow	248
White-winged Crossbill	289
Winter Wren	188
Wood Pewee Flycatcher	63
Wood Thrush	106
Worm-eating Warbler	165
Yellow Bird, or Goldfinch	262
Yellow-breasted Chat	69
Yellow Red-poll Warbler	158
Yellow-rump Warbler,—summer dress	127
Yellow-rump Warbler,—winter plumage	130
Yellow-throated Chat	73
Yellow-throat Warbler	136
Yellow-winged Sparrow	259

AMERICAN ORNITHOLOGY.

ORDER II.

CONTINUED.

PASSERES, LINNÆUS.

FAMILY IX.

CHELIDONES, VIEILL.

GENUS XIII. — *CAPRIMULGUS*, LINNÆUS.

66. *CAPRIMULGUS CAROLINENSIS*, WILSON AND GMELIN.

CHUCK-WILL'S-WIDOW.

WILSON, PLATE LIV. FIG. II.

THIS solitary bird is rarely found to the north of James river, in Virginia, on the sea-board, or of Nashville, in the State of Tennessee, in the interior; and no instance has come to my knowledge in which it has been seen either in New Jersey, Pennsylvania, or Maryland. On my journey south, I first met with it between Richmond and Petersburg, in Virginia, and also on the banks of the Cumberland in Tennessee.

Mr Pennant has described this bird under the appellation of the "short-winged goatsucker," (*Arct. Zool.* No. 336,) from a specimen which he received from Dr Garden, of Charleston, South Carolina; but, in speaking of its manners, he confounds it with the whip-poor-will, though the latter is little more than half the cubic bulk of the former, and its notes altogether different. "In South Carolina," says this writer, speaking of the present species, "it is called, from one of its notes, chuck-chuck-will's-widow; and, in the northern provinces, whip-poor-will, from the resemblance which another of its notes bears to these words." (*Arct. Zool.* p. 434.) He then proceeds to

detail the manners of the common whip-poor-will, by extracts from Dr Garden and Mr Kalm, which clearly prove that all of them were personally unacquainted with that bird ; and had never seen or examined any other than two of our species, the short-winged or chuck-will's-widow, and the long-winged, or night hawk, to both of which they indiscriminately attribute the notes and habits of the whip-poor-will.

The chuck-will's-widow, so called from its notes, which seem exactly to articulate these words, arrives on the sea coast of Georgia about the middle of March, and in Virginia early in April. It commences its singular call generally in the evening, soon after sunset, and continues it, with short occasional interruptions, for several hours. Towards morning these repetitions are renewed, and continue until dawn has fairly appeared. During the day it is altogether silent. This note, or call, instantly attracts the attention of a stranger, and is strikingly different from that of the whip-poor-will. In sound and articulation it seems plainly to express the words which have been applied to it (chuck-will's-widow,) pronouncing each syllable leisurely and distinctly, putting the principal emphasis on the last word. In a still evening it may be heard at the distance of nearly a mile, the tones of its voice being stronger and more full than those of the whip-poor-will, who utters his with much greater rapidity. In the Chickasaw country, and throughout the whole Mississippi territory, I found the present species very numerous in the months of April and May, keeping up a continued noise during the whole evening, and, in moonlight, throughout the whole of the night.

The flight of this bird is low, skimming about at a few feet above the surface of the ground, frequently settling on old logs, or on the fences, and from thence sweeping around, in pursuit of various winged insects that fly in the night. Like the whip-poor-will, it prefers the declivities of glens and other deeply shaded places, making the surrounding mountains ring with echoes the whole evening. I several times called the

attention of the Chickasaws to the notes of this bird, on which occasions they always assumed a grave and thoughtful aspect; but it appeared to me that they made no distinction between the two species; so that whatever superstitious notions they may entertain of the one are probably applied to both.

This singular genus of birds, formed to subsist on the superabundance of nocturnal insects, are exactly and surprisingly fitted for their peculiar mode of life. Their flight is low, to accommodate itself to their prey; silent, that they may be the better concealed, and sweep upon it unawares; their sight, most acute in the dusk, when such insects are abroad; their evolutions, something like those of the bat, quick and sudden; their mouths, capable of prodigious expansion, so seize with more certainty, and furnished with long branching hairs, or bristles, serving as palisades to secure what comes between them. Reposing so much during the heats of day, they are much infested with vermin, particularly about the head, and are provided with a comb on the inner edge of the middle claw, with which they are often employed in ridding themselves of these pests, at least when in a state of captivity. Having no weapons of defence, except their wings, their chief security is in the solitude of night, and in their colour and close retreats by day; the former so much resembling that of dead leaves, of various hues, as not to be readily distinguished from them even when close at hand.

The chuck-will's-widow lays its eggs, two in number, on the ground, generally, and, I believe, always in the woods; it makes no nest; the eggs are of a dull olive colour, sprinkled with darker specks, are about as large as those of a pigeon, and exactly oval. Early in September they retire from the United States.

This species is twelve inches long, and twenty-six in extent; bill, yellowish, tipped with black; the sides of the mouth are armed with numerous long bristles, strong, tapering, and furnished with finer hairs branching from each; cheeks and chin, rust colour, specked with black; over the eye extends a line of small whitish spots; head

and back, very deep brown, powdered with cream, rust, and bright ferruginous, and marked with long ragged streaks of black; scapulars, broadly spotted with deep black, bordered with cream, and interspersed with whitish; the plumage of that part of the neck which falls over the back, is long, something like that of a cock, and streaked with yellowish brown; wing quills, barred with black and bright rust; tail, rounded, extending about an inch beyond the tips of the wings; it consists of ten feathers, the four middle ones are powdered with various tints of ferruginous, and elegantly marked with fine zig-zag lines, and large herring-bone figures of black; exterior edges of the three outer feathers, barred like the wings; their interior vanes, for two-thirds of their length, are pure snowy white, marbled with black, and ferruginous at the base; this white spreads over the greater part of the three outer feathers near their tips; across the throat is a slight band or mark of whitish; breast, black, powdered with rust; belly and vent, lighter; legs, feathered before nearly to the feet, which are of a dirty purplish flesh colour; inner side of the middle claw, deeply pectinated.

The female differs chiefly in wanting the pure white on the three exterior tail feathers, these being more of a brownish cast.

67. *CAPRIMULGUS AMERICANUS*, WILSON. — NIGHT HAWK.

WILSON, PLATE XL. FIG. I. MALE. — FIG. II. FEMALE.

THIS bird, in Virginia and some of the southern districts, is called a bat; the name night hawk is usually given it in the middle and northern States, probably on account of its appearance when on wing very much resembling some of our small hawks, and from its habit of flying chiefly in the evening. Though it is a bird universally known in the United States, and inhabits North America, in summer, from Florida to Hudson's Bay, yet its history has been involved in considerable obscurity by foreign writers, as well as by some of our

own country. Of this I shall endeavour to divest it in the present account.

Three species only, of this genus, are found within the United States; the chuck-will's-widow, the whip-poor-will, and the night hawk. The first of these is confined to those States lying south of Maryland; the other two are found generally over the Union, but are frequently confounded one with the other, and by some supposed to be one and the same bird. A comparison of this with the figure of the whip-poor-will will satisfy those who still have their doubts on this subject; and the great difference of manners which distinguishes each will render this still more striking and satisfactory.

On the last week in April, the night hawk commonly makes its first appearance in this part of Pennsylvania. At what particular period they enter Georgia, I am unable to say; but I find, by my notes, that, in passing to New Orleans by land, I first observed this bird in Kentucky on the 21st of April. They soon after disperse generally over the country, from the sea shore to the mountains, even to the heights of the Alleghany; and are seen, towards evening, in pairs, playing about, high in air, pursuing their prey, wasps, flies, beetles, and various other winged insects of the larger sort. About the middle of May, the female begins to lay. No previous preparation or construction of nest is made; though doubtless the particular spot has been reconnoitred and determined on. This is sometimes in an open space in the woods, frequently in a ploughed field, or in the corner of a corn field. The eggs are placed on the bare ground, in all cases on a dry situation, where the colour of the leaves, ground, stones, or other circumjacent parts of the surface may resemble the general tint of the eggs, and thereby render them less easy to be discovered. The eggs are most commonly two, rather oblong, equally thick at both ends, of a dirty bluish white, and marked with innumerable touches of dark olive brown. To the immediate neighbourhood of this spot the male and female confine themselves, roosting on the high trees adjoining during

the greater part of the day, seldom, however, together, and almost always on separate trees. They also sit lengthwise on the branch, fence, or limb, on which they roost, and never across, like most other birds; this seems occasioned by the shortness and slender form of their legs and feet, which are not at all calculated to grasp the branch with sufficient firmness to balance their bodies.

As soon as incubation commences, the male keeps a most vigilant watch around. He is then more frequently seen playing about in the air over the place, even during the day, mounting by several quick vibrations of the wings, then a few slower, uttering all the while a sharp harsh squeak, till, having gained the highest point, he suddenly precipitates himself, head foremost, and with great rapidity, down sixty or eighty feet, wheeling up again as suddenly; at which instant is heard a loud booming sound, very much resembling that produced by blowing strongly into the bung-hole of an empty hog-head; and which is doubtless produced by the sudden expansion of his capacious mouth, while he passes through the air. He again mounts by alternate quick and leisurely motions of the wings, playing about as he ascends, uttering his usual hoarse squeak, till, in a few minutes, he again dives with the same impetuosity and violent sound as before. Some are of opinion that this is done to intimidate man or beast from approaching his nest, and he is particularly observed to repeat these divings most frequently around those who come near the spot, sweeping down past them, sometimes so near, and so suddenly, as to startle and alarm them. The same individual is, however, often seen performing these manœuvres over the river, the hill, the meadow, and the marsh, in the space of a quarter of an hour, and also towards the fall, when he has no nest. This singular habit belongs peculiarly to the male. The female has, indeed, the common hoarse note, and much the same mode of flight; but never precipitates herself in the manner of the male. During the time she is sitting, she will suffer you to approach

within a foot or two before she attempts to stir, and, when she does, it is in such a fluttering, tumbling manner, and with such appearance of a lame and wounded bird, as nine times in ten to deceive the person, and induce him to pursue her. This "pious fraud," as the poet Thomson calls it, is kept up until the person is sufficiently removed from the nest, when she immediately mounts and disappears. When the young are first hatched, it is difficult to distinguish them from the surface of the ground, their down being of a pale brownish colour, and they are altogether destitute of the common shape of birds, sitting so fixed and so squat as to be easily mistaken for a slight prominent mouldiness lying on the ground. I cannot say whether they have two brood in the season; I rather conjecture that they have generally but one.

The night hawk is a bird of strong and vigorous flight, and of large volume of wing. It often visits the city, darting and squeaking over the streets at a great height, diving perpendicularly with the same hollow sound as before described. I have also seen them sitting on chimney tops in some of the most busy parts of the city, occasionally uttering their common note.

When the weather happens to be wet and gloomy, the night hawks are seen abroad at all times of the day, generally at a considerable height; their favourite time, however, is from two hours before sunset until dusk. At such times they seem all vivacity, darting about in the air in every direction, making frequent short sudden turnings, as if busily engaged in catching insects. Even in the hottest, clearest weather, they are occasionally seen abroad, squeaking at short intervals. They are also often found sitting along the fences, basking themselves in the sun. Near the sea-shore, in the vicinity of extensive salt marshes, they are likewise very numerous, skimming over the meadows, in the manner of swallows, until it is so dark that the eye can no longer follow them.

When wounded and taken, they attempt to intimidate you by opening their mouth to its utmost stretch,

throwing the head forward, and uttering a kind of guttural whizzing sound, striking also violently with their wings, which seem to be their only offensive weapons; for they never attempt to strike with the bill or claws.

About the middle of August, they begin to move off towards the south; at which season they may be seen almost every evening, from five o'clock until after sunset, passing along the Schuylkill and the adjacent shores, in widely scattering multitudes, all steering towards the south. I have counted several hundreds within sight at the same time, dispersed through the air, and darting after insects as they advanced. These occasional processions continue for two or three weeks; none are seen travelling in the opposite direction. Sometimes they are accompanied by at least twice as many barn swallows, some chimney swallows and purple martins. They are also most numerous immediately preceding a northeast storm. At this time also they abound in the extensive meadows on the Schuylkill and Delaware, where I have counted fifteen skimming over a single field in an evening. On shooting some of these, on the 14th of August, their stomachs were almost exclusively filled with crickets. From one of them I took nearly a common snuff-box full of these insects, all seemingly fresh swallowed.

By the middle or 20th of September, very few of these birds are to be seen in Pennsylvania; how far south they go, or at what particular time they pass the southern boundaries of the United States, I am unable to say. None of them winter in Georgia.

The ridiculous name goatsucker,—which was first bestowed on the European species, from a foolish notion that it sucked the teats of the goats, because, probably, it inhabited the solitary heights where they fed, which nickname has been since applied to the whole genus,—I have thought proper to omit. There is something worse than absurd in continuing to brand a whole family of birds with a knavish name, after they are universally known to be innocent of the charge. It is

not only unjust, but tends to encourage the belief in an idle fable that is totally destitute of all foundation.

The night hawk is nine inches and a half in length, and twenty-three inches in extent; the upper parts are of a very deep blackish brown, unmixed on the primaries, but thickly sprinkled or powdered on the back scapulars and head with innumerable minute spots and streaks of a pale cream colour, interspersed with specks of reddish; the scapulars are barred with the same, also the tail-coverts and tail, the inner edges of which are barred with white and deep brownish black for an inch and a half from the tip, where they are crossed broadly with a band of white, the two middle ones excepted, which are plain deep brown, barred and sprinkled with light clay; a spot of pure white extends over the five first primaries, the outer edge of the exterior feather excepted, and about the middle of the wing; a triangular spot of white also marks the throat, bending up on each side of the neck; the bill is exceedingly small, scarcely one-eighth of an inch in length, and of a black colour; the nostrils, circular, and surrounded with a prominent rim; eye, large and full, of a deep bluish black; the legs are short, feathered a little below the knees, and, as well as the toes, of a purplish flesh colour, seamed with white; the middle claw is pectinated on its inner edge, to serve as a comb to clear the bird of vermin; the whole lower parts of the body are marked with transverse lines of dusky and yellowish. The tail is somewhat shorter than the wings when shut, is handsomely forked, and consists of ten broad feathers; the mouth is extremely large, and of a reddish flesh colour within; there are no bristles about the bill; the tongue is very small, and attached to the inner surface of the mouth.

The female measures about nine inches in length, and twenty-two in breadth; differs in having no white band on the tail, but has the spot of white on the wing; wants the triangular spot of white on the throat, instead of which there is a dully defined mark of a reddish cream colour; the wings are nearly black, all the quills

being slightly tipt with white; the tail is as in the male, and minutely tipt with white; all the scapulars, and whole upper parts, are powdered with a much lighter gray.

There is no description of the present species in Turton's translation of Linnæus. The characters of the genus given in the same work are also in this case incorrect, viz. "mouth furnished with a series of bristles; tail not forked,"—the night hawk having nothing of the former, and its tail being largely forked.

68. *CAPRIMULGUS VOCIFERUS*, WILSON. — WHIP-POOR-WILL.

WILSON, PLATE XII. FIG. I. MALE. — FIG. II. FEMALE. — FIG. III. YOUNG.

THIS is a singular and very celebrated species, universally noted over the greater part of the United States for the loud reiterations of his favourite call in spring; and yet personally he is but little known, most people being unable to distinguish this from the preceding species, when both are placed before them; and some insisting that they are the same. This being the case, it becomes the duty of his historian to give a full and faithful delineation of his character and peculiarity of manners, that his existence as a distinct and independent species may no longer be doubted, nor his story mingled confusedly with that of another. I trust that those best acquainted with him will bear witness to the fidelity of the portrait.

On or about the 25th of April, if the season be not uncommonly cold, the whip-poor-will is first heard in this part of Pennsylvania, in the evening, as the dusk of twilight commences, or in the morning as soon as dawn has broke. In the State of Kentucky I first heard this bird on the 14th of April, near the town of Danville. The notes of this solitary bird, from the ideas which are naturally associated with them, seem like the voice of an old friend, and are listened to by almost all with great interest. At first they issue from some

retired part of the woods, the glen, or mountain ; in a few evenings, perhaps, we hear them from the adjoining coppice, the garden fence, the road before the door, and even from the ~~roof~~ of the dwelling-house, long after the family have retired to rest. Some of the more ignorant and superstitious considered this near approach as foreboding no good to the family, nothing less than sickness, misfortune, or death, to some of its members ; these visits, however, so often occur without any bad consequences, that this superstitious dread seems on the decline.

He is now a regular acquaintance. Every morning and evening his shrill and rapid repetitions are heard from the adjoining woods, and when two or more are calling out at the same time, as is often the case in the pairing season, and at no great distance from each other, the noise, mingling with the echoes from the mountains, is really surprising. Strangers, in parts of the country where these birds are numerous, find it almost impossible for some time to sleep ; while to those long acquainted with them, the sound often serves as a lullaby to assist their repose.

These notes seem pretty plainly to articulate the words which have been generally applied to them, *whip-poor-will*, the first and last syllables being uttered with great emphasis, and the whole in about a second to each repetition ; but when two or more males meet, their whip-poor-will altercations become much more rapid and incessant, as if each were straining to overpower or silence the other. When near, you often hear an introductory cluck between the notes. At these times, as well as at almost all others, they fly low, not more than a few feet from the surface, skimming about the house and before the door, alighting on the wood pile, or settling on the roof. Towards midnight they generally become silent, unless in clear moonlight, when they are heard with little intermission till morning. If there be a creek near, with high precipitous bushy banks, they are sure to be found in such situations. During the day they sit in the most

retired, solitary, and deep shaded parts of the woods, generally on high ground, where they repose in silence. When disturbed, they rise within a few feet, sail low and slowly through the woods for thirty or forty yards, and generally settle on a low branch or on the ground. Their sight appears deficient during the day, as, like owls, they seem then to want that vivacity for which they are distinguished in the morning and evening twilight. They are rarely shot at or molested; and from being thus transiently seen in the obscurity of dusk, or in the deep umbrage of the woods, no wonder their particular markings of plumage should be so little known, or that they should be confounded with the night hawk, whom in general appearance they so much resemble. The female begins to lay about the second week in May, selecting for this purpose the most unfrequented part of the wood, often where some brush, old logs, heaps of leaves, &c. had been lying, and always on a dry situation. The eggs are deposited on the ground, or on the leaves, not the slightest appearance of a nest being visible. These are usually two in number, in shape much resembling those of the night hawk, but having the ground colour much darker, and more thickly marbled with dark olive. The precise period of incubation, I am unable to say.

In traversing the woods one day in the early part of June, along the brow of a rocky declivity, a whip-poor-will rose from my feet, and fluttered along, sometimes prostrating herself, and beating the ground with her wings, as if just expiring. Aware of her purpose, I stood still, and began to examine the space immediately around me for the eggs or young, one or other of which I was certain must be near. After a long search, to my mortification, I could find neither; and was just going to abandon the spot, when I perceived somewhat like a slight mouldiness among the withered leaves, and, on stooping down, discovered it to be a young whip-poor-will, seemingly asleep, as its eyelids were nearly closed; or perhaps this might only be to protect its tender eyes from the glare of day. I sat down by it on the leaves,

and drew it as it then appeared. It was probably not a week old. All the while I was thus engaged, it neither moved its body, nor opened its eyes more than half; and I left it as I found it. After I had walked about a quarter of a mile from the spot, recollecting that I had left a pencil behind, I returned and found my pencil, but the young bird was gone.

Early in June, as soon as the young appear, the notes of the male usually cease, or are heard but rarely. Towards the latter part of summer, a short time before these birds leave us, they are again occasionally heard; but their call is then not so loud—much less emphatical, and more interrupted than in spring. Early in September they move off towards the south.

The favourite places of resort for these birds are on high, dry situations; in low, marshy tracts of country, they are seldom heard. It is probably on this account that they are scarce on the sea-coast and its immediate neighbourhood; while towards the mountains they are very numerous. The night hawks, on the contrary, delight in these extensive sea marshes; and are much more numerous there than in the interior and higher parts of the country. But no where in the United States have I found the whip-poor-will in such numbers as in that tract of country in the State of Kentucky called the Barrens. This appears to be their most congenial climate and place of residence. There, from the middle of April to the 1st of June, as soon as the evening twilight draws on, the shrill and confused clamours of these birds are incessant, and very surprising to a stranger. They soon, however, become extremely agreeable, the inhabitants lie down at night lulled by their whistlings; and the first approaches of dawn are announced by a general and lively chorus of the same music; while the full-toned *tooting*, as it is called, of the pinnated grouse, forms a very pleasing bass to the whole.

I shall not, in the manner of some, attempt to amuse the reader with a repetition of the unintelligible names given to this bird by the Indians, or the superstitious

notions generally entertained of it by the same people. These seem as various as the tribes, or even families, with which you converse; scarcely two of them will tell you the same story. It is easy, however, to observe, that this, like the owl and other nocturnal birds, is held by them in a kind of suspicious awe, as a bird with which they wish to have as little to do as possible. The superstition of the Indian differs very little from that of an illiterate German, a Scots Highlander, or the less informed of any other nation. It suggests ten thousand fantastic notions to each, and these, instead of being recorded with all the punctilio of the most important truths, seem only fit to be forgotten. Whatever, among either of these people, is strange and not comprehended, is usually attributed to supernatural agency; and an unexpected sight, or uncommon incident, is often ominous of good, but more generally of bad, fortune, to the parties. Night, to minds of this complexion, brings with it its kindred horrors, its apparitions, strange sounds, and awful sights; and this solitary and inoffensive bird being a frequent wanderer in these hours of ghosts and hobgoblins, is considered by the Indians as being, by habit and repute, little better than one of them. All these people, however, are not so credulous: I have conversed with Indians who treated these silly notions with contempt.

The whip-poor-will is never seen during the day, unless in circumstances such as have been described. Their food appears to be large moths, grasshoppers, pismires, and such insects as frequent the bark of old rotten and decaying timber. They are also expert in darting after winged insects. They will sometimes skim in the dusk, within a few feet of a person, uttering a kind of low chatter as they pass. In their migrations north, and on their return, they probably stop a day or two at some of their former stages, and do not advance in one continued flight. The whip-poor-will was first heard this season [1811] on the 2d day of May, in a corner of Mr Bartram's woods, not far from the house, and for two or three mornings after in the same place.

where I also saw it. From this time until the beginning of September, there were none of these birds to be found within at least one mile of the place; though I frequently made search for them. On the 4th of September, the whip-poor-will was again heard for two evenings, successively, in the same part of the woods. I also heard several of them passing, within the same week, between dusk and nine o'clock at night, it being then clear moonlight. These repeated their notes three or four times, and were heard no more. It is highly probable that they migrate during the evening and night.

The whip-poor-will is nine inches and a half long, and nineteen inches in extent; the bill is blackish, a full quarter of an inch long, much stronger than that of the night hawk, and bent a little at the point, the under mandible arched a little upwards, following the curvature of the upper; the nostrils are prominent and tubular, their openings directed forward; the mouth is extravagantly large, of a pale flesh colour within, and beset along the sides with a number of long, thick, elastic bristles, the longest of which extends more than half an inch beyond the point of the bill, end in fine hair, and curve inwards; these seem to serve as feelers; and prevent the escape of winged insects: the eyes are very large, full, and bluish black; the plumage above is so variegated with black, pale cream, brown, and rust colour, sprinkled and powdered in such minute streaks and spots, as to defy description; the upper part of the head is of a light brownish gray, marked with a longitudinal streak of black, with others radiating from it; the back is darker, finely streaked with a less deep black; the scapulars are very light whitish ochre, beautifully variegated with two or three oblique streaks of very deep black; the tail is rounded, consisting of ten feathers, the exterior one an inch and a quarter shorter than the middle ones, the three outer feathers on each side are blackish brown for half their length, thence pure white to the tips, the exterior one is edged with deep brown nearly to the tip; the deep brown of

these feathers is regularly studded with light brown spots; the four middle ones are without the white at the ends, but beautifully marked with herring-bone figures of black and light ochre finely powdered; cheeks and sides of the head, of a brown orange or burnt colour; the wings, when shut, reach scarcely to the middle of the tail, and are elegantly spotted with very light and dark brown, but are entirely without the large spot of white which distinguishes those of the night hawk; chin, black, streaked with brown; a narrow semicircle of white passes across the throat; breast and belly, irregularly mottled and streaked with black and yellow ochre; the legs and feet are of a light purplish flesh colour, seamed with white; the former feathered before, nearly to the feet; the two exterior toes are joined to the middle one, as far as the first joint, by a broad membrane; the inner edge of the middle claw is pectinated, and, from the circumstance of its being frequently found with small portions of down adhering to the teeth, is probably employed as a comb to rid the plumage of its head of vermin; this being the principal and almost only part so infested in all birds.

The female is about an inch less in length and in extent; the bill, mustaches, nostrils, &c. as in the male. She differs in being much lighter on the upper parts, seeming as if powdered with grains of meal; and, instead of the white on the three lateral tail-feathers, has them tipped for about three-quarters of an inch with a cream colour; the bar across the throat is also of a brownish ochre; the cheeks and region of the eyes are brighter brownish orange, which passes also to the neck, and is sprinkled with black and specks of white; the streak over the eye is also lighter.

The young was altogether covered with fine down, of a pale brown colour; the shafts, or rather sheaths, of the quills, bluish; the point of the bill, just perceptible.

Twenty species of this singular genus are now known to naturalists; of these one only belongs to Europe, one to Africa, one to New Holland, two to India, and fifteen to America.

The present species, though it approaches nearer in its plumage to that of Europe than any other of the tribe, differs from it in being entirely without the large spot of white on the wing; and in being considerably less. Its voice, and particular call, are also entirely different.

Farther to illustrate the history of this bird, the following notes are added, made at the time of dissection:—Body, when stript of the skin, less than that of the wood thrush; breastbone, one inch in length; second stomach, strongly muscular, filled with fragments of pismires and grasshoppers; skin of the bird, loose, wrinkly, and scarcely attached to the flesh; flesh also loose, extremely tender; bones, thin and slender; sinews and muscles of the wing, feeble; distance between the tips of both mandibles, when expanded, full two inches, length of the opening, one inch and a half, breadth, one inch and a quarter; tongue, very short, attached to the skin of the mouth, its internal part, or *os hyoïdes*, passes up the hind head, and reaches to the front, like that of the woodpecker; which enables the bird to revert the lower part of the mouth in the act of seizing insects, and in calling; skull, extremely light and thin, being semi-transparent, its cavity nearly half occupied by the eyes; aperture for the brain, very small, the quantity not exceeding that of a sparrow; an owl of the same extent of wing has at least ten times as much.

Though this noted bird has been so frequently mentioned by name, and its manners taken notice of by almost every naturalist who has written on our birds, yet personally it has never yet been described by any writer with whose works I am acquainted. Extraordinary as this may seem, it is nevertheless true; and in proof I offer the following facts:—

Three species only of this genus are found within the United States, the chuck-will's-widow, the night hawk, and the whip-poor-will. Catesby, in the eighth plate of his *Natural History of Carolina*, has figured the first, and in the sixteenth of his *Appendix* the second; to this he has added particulars of the whip-poor-will,

believing it to be that bird, and has ornamented his figure of the night hawk with a large bearded appendage, of which in nature it is entirely destitute. After him, Mr Edwards, in his sixty-third plate, has in like manner figured the night hawk, also adding the bristles, and calling his figure the whip-poor-will, accompanying it with particulars of the notes, &c. of that bird, chiefly copied from Catesby. The next writer of eminence who has spoken of the whip-poor-will is Mr Pennant, justly considered as one of the most judicious and discriminating of English naturalists; but, deceived by "the lights he had," he has, in his account of the short-winged goatsucker,* (*Arct. Zool.* p. 434,) given the size, markings of plumage, &c. of the chuck-will's-widow; and, in the succeeding account of his long-winged goatsucker, describes pretty accurately the night hawk. Both of these birds he considers to be the whip-poor-will, and as having the same notes and manners.

After such authorities, it was less to be wondered at that many of our own citizens, and some of our naturalists and writers, should fall into the like mistake; as copies of the works of those English naturalists are to be found in several of our colleges, and in some of our public as well as private libraries. The means which the author of *American Ornithology* took to satisfy his own mind, and those of his friends, on this subject, were detailed at large, in a paper published about two years ago, in a periodical work of this city, with which extract I shall close my account of the present species.

"On the question, Is the whip-poor-will and the night hawk one and the same bird, or are they really two distinct species? there has long been an opposition of sentiment, and many fruitless disputes. Numbers of sensible and observing people, whose intelligence and long residence in the country entitle their opinion to

* The figure is by mistake called the *long-winged* goatsucker. See *Arctic Zoology*, vol. ii. pl. 18.

† *Caprimulgus Americanus*, night hawk or whip-poor-will. *Travels*, p. 292.

respect, positively assert that the night hawk and the whip-poor-will are very different birds, and do not even associate together. The naturalists of Europe, however, have generally considered the two names as applicable to one and the same species; and this opinion has also been adopted by two of our most distinguished naturalists, Mr William Bartram, of Kingsessing,* and Professor Barton, of Philadelphia.† The writer of this, being determined to ascertain the truth by examining for himself, took the following effectual mode of settling this disputed point, the particulars of which he now submits to those interested in the question :

“ Thirteen of those birds usually called night hawks, which dart about in the air like swallows, and sometimes descend with rapidity from a great height, making a hollow sounding noise like that produced by blowing into the bunghole of an empty hogshead, were shot at different times, and in different places, and accurately examined, both outwardly and by dissection. Nine of these were found to be males, and four females. The former all corresponded in the markings and tints of their plumage; the latter also agreed in their marks, differing slightly from the males, though evidently of the same species. Two others were shot as they rose from the nests, or rather from the eggs, which, in both cases, were two in number, lying on the open ground. These also agreed in the markings of their plumage with the four preceding; and, on dissection, were found to be females. The eggs were also secured. A whip-poor-will was shot in the evening, while in the act of repeating his usual and well known notes. This bird was found to be a male, differing in many remarkable particulars from all the former. Three others were shot at different times during the day, in solitary and dark shaded parts of the wood. Two of these were found to be females, one of which had been sitting on two eggs. The two females resembled each other

* *Caprimulgus Virginianus*, whip-poor-will, or night hawk. *Fragments of the Natural History of Pennsylvania*, p. 3. See also *American Phil. Trans.* vol. iv. p. 208, 209, note.

almost exactly; the male also corresponded in its markings with the one first found; and all four were evidently of one species. The eggs differed from the former both in colour and markings.

“ The differences between these two birds were as follow :— The sides of the mouth in both sexes of the whip-poor-will were beset with ranges of long and very strong bristles, extending more than half an inch beyond the point of the bill; both sexes of the night hawk were entirely destitute of bristles. The bill of the whip-poor-will was also more than twice the length of that of the night hawk. The long wing quills, of both sexes of the night hawk, were of a deep brownish black, with a large spot of white nearly in their middle, and, when shut, the tips of the wings extended a little *beyond* the tail. The wing-quills of the whip-poor-will, of both sexes, were beautifully spotted with light brown; had no spot of white on them, and, when shut, the tips of the wings did not reach to the tip of the tail by at least *two inches*. The tail of the night hawk was handsomely *forked*, the exterior feathers being the longest, shortening gradually to the middle ones; the tail of the whip-poor-will was *rounded*, the exterior feathers being the shortest, lengthening gradually to the middle ones.

“ After a careful examination of these and several other remarkable differences, it was impossible to withstand the conviction, that these birds belonged to two distinct species of the same genus, differing in size, colour, and conformation of parts.

“ A statement of the principal of these facts having been laid before Mr Bartram, together with a male and female of each of the above mentioned species, and also a male of the great Virginian bat, or chuck-will's-widow, after a particular examination that venerable naturalist was pleased to declare himself fully satisfied; adding, that he had now no doubt of the night hawk and the whip-poor-will being two very distinct species of caprimulgus.

“ It is not the intention of the writer of this to enter at present into a description of either the plumage,

manners, migrations, or economy of these birds, the range of country they inhabit, or the superstitious notions entertained of them; his only object at present is the correction of an error, which, from the respectability of those by whom it was unwarily adopted, has been but too extensively disseminated, and received by too many as a truth."

GENUS XIV.—*CYPSELUS*, ILLIGER.

69. *CYPSELUS PELAGIUS*, TEMM.

HIRUNDO PELAGIA, WILSON. — CHIMNEY SWALLOW, WILSON.

WILSON, PLATE XXXIX. FIG. 1. — EDINBURGH COLLEGE MUSEUM.

THIS species is peculiarly our own; and strongly distinguished from all the rest of our swallows by its figure, flight, and manners. These peculiarities shall be detailed as fully as the nature of the subject requires.

This swallow, like all the rest of its tribe in the United States, is migratory, arriving in Pennsylvania late in April or early in May, and dispersing themselves over the whole country wherever there are vacant chimneys in summer sufficiently high and convenient for their accommodation. In no other situation with us are they observed at present to build. This circumstance naturally suggests the query, Where did these birds construct their nests before the arrival of Europeans in this country, when there were no such places for their accommodation? I would answer, Probably in the same situations in which they still continue to build in the remote regions of our western forests, where European improvements of this kind are scarcely to be found, namely, in the hollow of a tree, which, in some cases, has the nearest resemblance to their present choice, of any other. One of the first settlers in the State of Kentucky informed me, that he cut down a large hollow beech tree, which contained forty or fifty nests of the chimney swallow, most of which, by the fall of the tree, or by the weather, were lying at the

bottom of the hollow; but sufficient fragments remained, adhering to the sides of the tree, to enable him to number them. They appeared, he said, to be of many years' standing. The present site which they have chosen must, however, hold out many more advantages than the former, since we see that, in the whole thickly settled parts of the United States, these birds have uniformly adopted this new convenience, not a single pair being observed to prefer the woods. Security from birds of prey and other animals—from storms that frequently overthrow the timber, and the numerous ready conveniencies which these new situations afford, are doubtless some of the advantages. The choice they have made certainly bespeaks something more than mere unreasoning instinct, and does honour to their discernment.

The nest of this bird is of singular construction, being formed of very small twigs, fastened together with a strong adhesive glue or gum, which is secreted by two glands, one on each side of the hind head, and mixes with the saliva. With this glue, which becomes hard as the twigs themselves, the whole nest is thickly besmeared. The nest itself is small and shallow, and attached by one side or edge to the wall, and is totally destitute of the soft lining with which the others are so plentifully supplied. The eggs are generally four, and white. They generally have two brood in the season. The young are fed at intervals during the greater part of the night, a fact which I have had frequent opportunities of remarking both here and in the Mississippi territory. The noise which the old ones make in passing up and down the funnel has some resemblance to distant thunder. When heavy and long continued rains occur, the nest, losing its hold, is precipitated to the bottom. This disaster frequently happens. The eggs are destroyed; but the young, though blind, (which they are for a considerable time,) sometimes scramble up along the vent, to which they cling like squirrels, the muscularity of their feet, and the sharpness of their claws, at this tender age, being

remarkable. In this situation they continue to be fed for perhaps a week or more. Nay, it is not uncommon for them voluntarily to leave the nest long before they are able to fly, and to fix themselves on the wall, where they are fed until able to hunt for themselves.

When these birds first arrive in spring, and for a considerable time after, they associate together every evening in one general rendezvous; those of a whole district roosting together. This place of repose, in the more unsettled parts of the country, is usually a large hollow tree, open at top; trees of that kind, or *swallow trees*, as they are usually called, having been noticed in various parts of the country, and generally believed to be the winter quarters of these birds, where, heaps upon heaps, they dozed away the winter in a state of torpidity. Here they have been seen on their resurrection in spring, and here they have again been remarked descending to their deathlike sleep in autumn.

Among various accounts of these trees that might be quoted, the following are selected as bearing the marks of authenticity. "At Middlebury, in this State," says Mr Williams, *History of Vermont*, p. 116, "there was a large hollow elm, called by the people in the vicinity, the swallow tree. From a man who for several years lived within twenty rods of it, I procured this information. He always thought the swallows tarried in the tree through the winter, and avoided cutting it down on that account. About the first of May the swallows came out of it in large numbers, about the middle of the day, and soon returned. As the weather grew warmer, they came out in the morning, with a loud noise, or roar, and were soon dispersed. About half an hour before sun-down, they returned in millions, circulating two or three times round the tree, and then descending like a stream into a hole about sixty feet from the ground. It was customary for persons in the vicinity to visit this tree to observe the motions of these birds: and when any persons disturbed their operations, by striking violently against the tree with their axes, the swallows would rush out in millions, and with a

great noise. In November, 1791, the top of this tree was blown down twenty feet below where the swallows entered. There has been no appearance of the swallows since. Upon cutting down the remainder, an immense quantity of excrements, quills, and feathers were found, but no appearance or relics of any nests.

“Another of these swallow trees was at Bridport. The man who lived the nearest to it gave this account. The swallows were first observed to come out of the tree in the spring, about the time that the leaves first began to appear on the trees; from that season they came out in the morning about half an hour after sunrise. They rushed out like a stream, as big as the hole in the tree would admit, and ascended in a perpendicular line, until they were above the height of the adjacent trees; then assumed a circular motion, performing their evolutions two or three times, but always in a larger circle, and then dispersed in every direction. A little before sun-down, they returned in immense numbers, forming several circular motions, and then descended like a stream into the hole, from whence they came out in the morning. About the middle of September, they were seen entering the tree for the last time. These birds were all of the species called the house or chimney swallow. The tree was a large hollow elm; the hole at which they entered was about forty feet above the ground, and about nine inches in diameter. The swallows made their first appearance in the spring, and their last appearance in the fall, in the vicinity of this tree; and the neighbouring inhabitants had no doubt but that the swallows continued in it during the winter. A few years ago, a hole was cut at the bottom of the tree; from that time the swallows have been gradually forsaking the tree, and have now almost deserted it.”

Though Mr Williams himself, as he informs us, is led to believe, from these, and some other particulars which he details, “that the house swallow in this part of America generally resides during the winter in the hollow of trees; and the ground swallows (bank swal-

lows) find security in the mud at the bottom of lakes, rivers, and ponds," yet I cannot, in the cases just cited, see any sufficient cause for such a belief. The birds were seen to pass out on the first of May, or in the spring, when the leaves began to appear on the trees, and, about the middle of September, they were seen entering the tree for the last time; but there is no information here of their being seen at any time during winter, either within or around the tree. This most important part of the matter is taken for granted without the least examination, and, as will be presently shewn, without foundation. I shall, I think, also prove, that, if these trees had been cut down in the depth of winter, not a single swallow would have been found either in a living or torpid state! And that this was merely a place of rendezvous for *active living birds* is evident, from the "immense quantity of excrements" found within it, which birds in a state of *torpidity* are not supposed to produce. The total absence of the relics of nests is a proof that it was not a breeding place, and that the whole was nothing more than one of those places to which this singular bird resorts, immediately on its arrival in May, in which, also, many of the males continue to roost during the whole summer, and from which they regularly depart about the middle of September. From other circumstances, it appears probable, that some of these trees have been for ages the summer rendezvous or general roosting place of the whole chimney swallows of an extensive district. Of this sort I conceive the following to be one which is thus described by a late traveller to the westward.

Speaking of the curiosities of the State of Ohio, the writer observes:—"In connection with this, I may mention a large collection of feathers found within a hollow tree which I examined, with the Rev. Mr Story, May 18th, 1803. It is in the upper part of Waterford, about two miles distant from the Muskingum. A very large sycamore, which, through age, had decayed and fallen down, contained in its hollow trunk, five and a half feet in diameter, and for nearly fifteen feet upwards,

a mass of decayed feathers, with a small admixture of brownish dust and the exuviae of various insects. The feathers were so rotten, that it was impossible to determine to what kind of birds they belonged. They were less than those of the pigeon; and the largest of them were like the pinion and tail feathers of the swallow. I examined carefully this astonishing collection, in the hope of finding the bones and bills, but could not distinguish any. The tree, with some remains of its ancient companions lying around, was of a growth preceding that of the neighbouring forest. Near it, and even out of its mouldering ruins, grow thrifty trees of a size which indicate two or three hundred years of age."*

Such are the usual roosting places of the chimney swallow in the more thinly settled parts of the country. In towns, however, they are differently situated, and it is matter of curiosity to observe that they frequently select the court-house chimney for their general place of rendezvous, as being usually more central, and less liable to interruption during the night. I might enumerate many places where this is their practice. Being in the town of Reading, Pennsylvania, in the month of August, I took notice of sixty or eighty of these birds, a little before evening, amusing themselves by ascending and descending the chimney of the court-house there. I was told, that in the early part of summer, they were far more numerous at that particular spot. On the 20th of May, in returning from an excursion to the Great Pine swamp, I spent part of the day in the town of Easton, where I was informed by my respected friend, Mordecai Churchman, cashier of the bank there, and one of the people called quakers, that the chimney swallows of Easton had selected the like situation; and that, from the windows of his house, which stands nearly opposite to the court-house, I might, in an hour or two, witness their whole manœuvres.

I accepted the invitation with pleasure. Accordingly,

* HARRIS'S *Journal*, p. 180.

a short time after sunset, the chimney swallows, which were generally dispersed about town, began to collect around the court-house, their numbers every moment increasing, till, like motes in the sunbeams, the air seemed full of them. These, while they mingled amongst each other seemingly in every direction, uttering their peculiar note with great sprightliness, kept a regular circuitous sweep around the top of the court-house, and about fourteen or fifteen feet above it, revolving with great rapidity for the space of at least ten minutes. There could not be less than four or five hundred of them. They now gradually varied their line of motion, until one part of its circumference passed immediately over the chimney, and about five or six feet above it. Some as they passed made a slight feint of entering, which was repeated by those immediately after, and by the whole circling multitude in succession; in this feint they approached nearer and nearer at every revolution, dropping perpendicularly, but still passing over; the circle meantime becoming more and more contracted, and the rapidity of its revolution greater, as the dusk of evening increased, until, at length, one, and then another, dropped in, another and another followed, the circle still revolving until the whole multitude had descended except one or two. These flew off, as if to collect the stragglers, and, in a few seconds, returned, with six or eight more, which, after one or two rounds, dropped in one by one, and all was silence for the night. It seemed to me hardly possible that the internal surface of the vent could accommodate them all, without clustering on one another, which I am informed they never do; and I was very desirous of observing their ascension in the morning, but having to set off before day, I had not that gratification. Mr Churchman, however, to whom I have since transmitted a few queries, has been so obliging as to inform me, that towards the beginning of June the number of those that regularly retired to the court-house to roost, was not more than one-fourth of the former; that on the morning of the 23d of June,

he particularly observed their reascension, which took place at a quarter past four, or twenty minutes before sunrise, and that they passed out in less than three minutes; that at my request the chimney had been examined from above; but that, as far down at least as nine feet, it contained no nests; though at a former period it is certain that their nests were very numerous there, so that the chimney was almost choked, and a sweep could with difficulty get up it. But then it was observed that their place of nocturnal retirement was in another quarter of the town. "On the whole," continues Mr Churchman, "I am of opinion, that those who continue to roost at the court-house are male birds, or such as are not engaged in the business of incubation, as that operation is going on in almost every unoccupied chimney in town. It is reasonable to suppose, if they made use of that at the court-house for this purpose, at least some of their nests would appear towards the top, as we find such is the case where but few nests are in a place."

In a subsequent letter Mr Churchman writes as follows:—"After the young brood produced in the different chimneys in Easton had taken wing, and a week or ten days previous to their total disappearance, they entirely forsook the court-house chimney, and rendezvoused in accumulated numbers in the southernmost chimney of John Ross's mansion, situated perhaps one hundred feet northeastward of the court-house. In this last retreat I several times counted more than two hundred go in of an evening, when I could not perceive a single bird enter the court-house chimney. I was much diverted one evening on seeing a cat, which came upon the roof of the house, and placed herself near the chimney, where she strove to arrest the birds as they entered, without success; she at length ascended to the chimney top and took her station, and the birds descended in gyrations without seeming to regard grimalkin, who made frequent attempts to grab them. I was pleased to see that they all escaped her fangs. About the first week in the ninth month

[September,] the birds quite disappeared; since which I have not observed a single individual. Though I was not so fortunate as to be present at their general assembly and council when they concluded to take their departure, nor did I see them commence their flight, yet I am fully persuaded that none of them remain in any of our chimneys here. I have had access to Ross's chimney where they last resorted, and could see the lights out from bottom to top, without the least vestige or appearance of any birds. Mary Ross also informed me, that they have had their chimneys swept previous to their making fires, and, though late in autumn, no birds have been found there. Chimneys, also, which have not been used, have been ascended by sweeps in the winter without discovering any. Indeed, all of them are swept every fall and winter, and I have never heard of the swallows being found in either a dead, living, or torpid state. As to the court-house, it has been occupied as a place of worship two or three times a-week for several weeks past, and at those times there has been fire in the stoves, the pipes of them both going into the chimney, which is shut up at bottom by brick work: and, as the birds had forsaken that place, it remains pretty certain that they did not return there; and, if they did, the smoke, I think, would be deleterious to their existence, especially as I never knew them to resort to kitchen chimneys where fire was kept in the summer. I think I have noticed them enter such chimneys for the purpose of exploring; but I have also noticed that they immediately ascended, and went off, on finding fire and smoke."

The chimney swallow is easily distinguished in air from the rest of its tribe here, by its long wings, its short body, the quick and slight vibrations of its wings, and its wide unexpected diving rapidity of flight; shooting swiftly in various directions without any apparent motion of the wings, and uttering the sounds *tsip tsip tsip tsee tsee* in a hurried manner. In roosting, the thorny extremities of its tail are thrown in for its support. It is never seen to alight but in hollow

trees or chimneys; is always most gay and active in wet and gloomy weather; and is the earliest abroad in morning, and latest out in evening, of all our swallows. About the first or second week in September, they move off to the south, being often observed on their route, accompanied by the purple martins.

When we compare the manners of these birds while here with the account given by Captain Henderson of those that winter in such multitudes at Honduras, it is impossible not to be struck with the resemblance; or to suppress our strong suspicions that they may probably be the very same.

This species is four inches and a half in length, and twelve inches in extent! altogether of a deep sooty brown, except the chin and line over the eye, which are of a dull white; the lores, as in all the rest, are black; bill, extremely short, hard, and black; nostrils, placed in a slightly elevated membrane; legs, covered with a loose purplish skin; thighs, naked, and of the same tint; feet, extremely muscular; the three fore toes, nearly of a length; claws, very sharp; the wing, when closed, extends an inch and a half beyond the tip of the tail, which is rounded, and consists of *ten* feathers scarcely longer than their coverts; their shafts extend beyond the vanes, are sharp-pointed, strong, and very elastic, and of a deep black colour; the shafts of the wing quills are also remarkably strong; eye, black, surrounded by a bare blackish skin or orbit.

The female can scarcely be distinguished from the male by her plumage.

GENUS XV.—*HIRUNDO*, LINNÆUS.

70. *HIRUNDO PURPUREA*, LINNÆUS AND WILSON.

PURPLE MARTIN.

WILSON, PLATE XXXIX. FIG. I. MALE. — FIG. II. FEMALE.

THIS well-known bird is a general inhabitant of the United States, and a particular favourite wherever he

takes up his abode. I never met with more than one man who disliked the martins, and would not permit them to settle about his house. This was a penurious, close-fisted German, who hated them, because, as he said, "they eat his *peas*." I told him he must certainly be mistaken, as I never knew an instance of martins eating *peas*; but he replied with coolness, that he had many times seen them himself "blaying near the hife, and going *schnip, schnap*," by which I understood that it was his *bees* that had been the sufferers; and the charge could not be denied.

This sociable and half domesticated bird arrives in the southern frontiers of the United States late in February, or early in March; reaches Pennsylvania about the 1st of April, and extends his migrations as far north as the country round Hudson's Bay, where he is first seen in May and disappears in August; so, according to the doctrine of torpidity, has, consequently, a pretty long annual nap in those frozen regions, of eight or nine months, under the ice! We, however, choose to consider him as advancing northerly with the gradual approach of spring, and retiring with his young family, on the first decline of summer, to a more congenial climate.

The summer residence of this agreeable bird is universally among the habitations of man; who, having no interest in his destruction, and deriving considerable advantage, as well as amusement, from his company, is generally his friend and protector. Wherever he comes, he finds some hospitable retreat fitted up for his accommodation, and that of his young, either in the projecting wooden cornice, on the top of the roof, or sign-post, in the box appropriated to the bluebird; or, if all these be wanting, in the dove-house among the pigeons. In this last case, he sometimes takes possession of one quarter or tier of the premises, in which not a pigeon dare for a moment set its foot. Some people have large conveniencies formed for the martins, with many apartments, which are usually fully tenanted, and occupied regularly every spring; and, in such places, particular

individuals have been noted to return to the same box for several successive years. Even the solitary Indian seems to have a particular respect for this bird. The Chactaws and Chickasaws cut off all the top branches from a sapling near their cabins, leaving the prongs a foot or two in length, on each of which they hang a gourd, or calabash, properly hollowed out for their convenience. On the banks of the Mississippi, the negroes stick up long canes, with the same species of apartment fixed to their tops, in which the martins regularly breed. Wherever I have travelled in this country, I have seen with pleasure the hospitality of the inhabitants to this favourite bird.

As superseding the necessity of many of my own observations on this species, I beg leave to introduce in this place an extract of a letter from the late learned and venerable John Joseph Henry, Esq. judge of the supreme court of Pennsylvania, a man of most amiable manners, which was written to me but a few months before his death, and with which I am happy to honour my performance:—"The history of the purple martin of America," says he, "which is indigenous in Pennsylvania, and countries very far north of our latitude, will, under your control, become extremely interesting. We know its manners, habitudes, and useful qualities here; but we are not generally acquainted with some traits in its character, which, in my mind, rank it in the class of the most remarkable birds of passage. Somewhere (I cannot now refer to book and page) in Anson's *Voyage*, or in Dampier, or some other southern voyager, I recollect that the martin is named as an inhabitant of the regions of southern America, particularly of Chili; and, in consequence, from the knowledge we have of its immense emigration northward in our own country, we may fairly presume that its flight extends to the south as far as Terra del Fuego. If the conjecture be well founded, we may, with some certainty, place this useful and delightful companion and friend of the human race as the first in the order of birds of passage. Nature has furnished it with a lengthy, strong, and

nervous pinion; its legs are short, too, so as not to impede its passage; the head and body are flattish; in short, it has every indication, from bodily formation, that Providence intended it as a bird of the longest flight. Belknap speaks of it as a visitant of New Hampshire. I have seen it in great numbers at Quebec. Hearne speaks of it in lat. 60° north. To ascertain the times of the coming of the martin to New Orleans, and its migration to and from Mexico, Quito, and Chili, are desirable data in the history of this bird; but it is probable that the state of science in those countries renders this wish hopeless.

“Relative to the domestic history, if it may be so called, of the bluebird and the martin, permit me to give you an anecdote: In 1800 I removed from Lancaster to a farm a few miles above Harrisburgh. Knowing the benefit derivable to a farmer from the neighbourhood of the martin, in preventing the depredations of the bald eagle, the hawks, and even the crows, my carpenter was employed to form a large box, with a number of apartments for the martin. The box was put up in the autumn. Near and around the house were a number of well grown apple-trees and much shrubbery, a very fit haunt for the feathered race. About the middle of February, the bluebirds came; in a short time they were very familiar, and took possession of the box: these consisted of two or three pairs. By the 15th of May, the bluebirds had eggs, if not young. Now the martins arrived in numbers, visited the box, and a severe conflict ensued. The bluebirds, seemingly animated by their right of possession, or for the protection of their young, were victorious. The martins regularly arrived about the middle of May, for the eight following years, examined the apartments of the box, in the absence of the bluebirds, but were uniformly compelled to fly upon the return of the latter.

“The trouble caused you by reading this note you will be pleased to charge to the martin. A box replete with that beautiful traveller, is not very distant from

my bed-head. Their notes seem discordant because of their numbers; yet to me they are pleasing. The industrious farmer and mechanic would do well to have a box fixed near the apartments of their drowsy labourers. Just as the dawn approaches, the martin begins its notes, which last half a minute or more; and then subside until the twilight is fairly broken. An animated and incessant musical chattering now ensues, sufficient to arouse the most sleepy person. Perhaps chanticleer is not their superior in this beneficial qualification; and he is far beneath the martin in his powers of annoying birds of prey."

I shall add a few particulars to this faithful and interesting sketch by my deceased friend: About the middle, or 20th, of April, the martins first begin to prepare their nest. The last of these, which I examined, was formed of dry leaves of the weeping willow, slender straws, hay, and feathers, in considerable quantity. The eggs were four, very small for the size of the bird, and pure white, without any spots. The first brood appears in May, the second late in July. During the period in which the female is laying, and before she commences incubation, they are both from home the greater part of the day. When the female is sitting, she is frequently visited by the male, who also occupies her place while she takes a short recreation abroad. He also often passes a quarter of an hour in the apartment beside her, and has become quite domesticated since her confinement. He sits on the outside dressing and arranging his plumage, occasionally passing to the door of the apartment as if to inquire how she does. His notes, at this time, seem to have assumed a peculiar softness, and his gratulations are expressive of much tenderness. Conjugal fidelity, even where there is a number together, seems to be faithfully preserved by these birds. On the 25th of May, a male and female martin took possession of a box in Mr Bartram's garden. A day or two after, a second female made her appearance, and staid for several days; but, from the cold reception she met with, being frequently beat off by

the male, she finally abandoned the place, and set off, no doubt, to seek for a more sociable companion.

The purple martin, like his half-cousin the king bird, is the terror of crows, hawks, and eagles. These he attacks whenever they make their appearance, and with such vigour and rapidity, that they instantly have recourse to flight. So well known is this to the lesser birds, and to the domestic poultry, that, as soon as they hear the martin's voice, engaged in fight, all is alarm and consternation. To observe with what spirit and audacity this bird dives and sweeps upon and around the hawk or the eagle is astonishing. He also bestows an occasional bastinading on the king bird when he finds him too near his premises ; though he will, at any time, instantly co-operate with him in attacking the common enemy.

The martin differs from all the rest of our swallows in the particular prey which he selects. Wasps, bees, large beetles, particularly those called by the boys *gold-smiths*, seem his favourite game. I have taken four of these large beetles from the stomach of a purple martin, each of which seemed entire, and even unbruised.

The flight of the purple martin unites in it all the swiftness, ease, rapidity of turning, and gracefulness of motion of its tribe. Like the swift of Europe, he sails much with little action of the wings. He passes through the most crowded parts of our streets, eluding the passengers with the quickness of thought ; or plays among the clouds, gliding about at a vast height, like an aerial being. His usual note, *peuo peuo peuo*, is loud and musical ; but is frequently succeeded by others more low and guttural. Soon after the 20th of August, he leaves Pennsylvania for the south.

This bird has been described, three or four different times, by European writers, as so many different species, —the Canadian swallow of Turton, and the great American martin of Edwards, being evidently the female of the present species. The violet swallow of the former author, said to inhabit Louisiana, differs in no respect from the present. Deceived by the appear-

ance of the flight of this bird, and its similarity to that of the swift of Europe, strangers from that country have also asserted that the swift is common to North America and the United States. No such bird, however, inhabits any part of this continent that I have as yet visited.

The purple martin is eight inches in length, and sixteen inches in extent; except the lores, which are black, and the wings and tail, which are of a brownish black, he is of a rich and deep purplish blue, with strong violet reflections; the bill is strong, the gape very large; the legs also short, stout, and of a dark dirty purple; the tail consists of twelve feathers, is considerably forked, and edged with purple blue; the eye full and dark.

The female measures nearly as large as the male; the upper parts are blackish brown, with blue and violet reflections thinly scattered; chin and breast, grayish brown; sides under the wings, darker; belly and vent, whitish, not pure, with stains of dusky and yellow ochre; wings and tail, blackish brown.

71. *HIRUNDO AMERICANA*, WILS. — *HIRUNDO RUFA*, GMELIN.

BARN SWALLOW, WILSON.

WILSON, PLATE XXXVIII. FIG. I. MALE. — FIG. II. FEMALE.

THERE are but few persons in the United States unacquainted with this gay, innocent, and active little bird. Indeed the whole tribe are so distinguished from the rest of small birds by their sweeping rapidity of flight, their peculiar aerial evolutions of wing over our fields and rivers, and through our very streets, from morning to night, that the light of heaven itself, the sky, the trees, or any other common objects of nature, are not better known than the swallows. We welcome their first appearance with delight, as the faithful harbingers and companions of flowery spring, and ruddy summer; and when, after a long, frost-bound, and boisterous winter, we hear it announced, that "The

“swallows are come,” what a train of charming ideas are associated with the simple tidings!

The wonderful activity displayed by these birds forms a striking contrast to the slow habits of most other animals. It may be fairly questioned, whether, among the whole feathered tribes which heaven has formed to adorn this part of creation, there be any that, in the same space of time, pass over an equal extent of surface with the swallow. Let a person take his stand on a fine summer evening by a new mown field, meadow, or river shore, for a short time, and among the numerous individuals of this tribe that flit before him, fix his eye on a particular one, and follow, for a while, all its circuitous labyrinths—its extensive sweeps—its sudden, rapidly reiterated zig-zag excursions, little inferior to the lightning itself, and then attempt, by the powers of mathematics, to calculate the length of the various lines it describes. Alas! even his omnipotent fluxions would avail him little here, and he would soon abandon the task in despair. Yet, that some definite conception may be formed of this extent, let us suppose, that this little bird flies, in his usual way, at the rate of one mile in a minute, which, from the many experiments I have made, I believe to be within the truth; and that he is so engaged for ten hours every day; and further, that this active life is extended to ten years, (many of our small birds being known to live much longer, even in a state of domestication), the amount of all these, allowing three hundred and sixty-five days to a year, would give us two million one hundred and ninety thousand miles; upwards of eighty-seven times the circumference of the globe! Yet this little winged seraph, if I may so speak, who, in a few days, and at will, can pass from the borders of the arctic regions to the torrid zone, is forced, when winter approaches, to descend to the bottoms of lakes, rivers, and mill-ponds, to bury itself in the mud with eels and snapping turtles; or to creep ingloriously into a cavern, a rat-hole, or a hollow tree, there to doze, with snakes, toads, and other reptiles, until the return

of spring! Is not this true, ye wise men of Europe and America, who have published so many *credible* narratives on this subject? The geese, the ducks, the cat-bird, and even the wren, which creeps about our outhouses in summer like a mouse, are all acknowledged to be migratory, and to pass to southern regions at the approach of winter: the swallow alone, on whom Heaven has conferred superior powers of wing, must sink in torpidity at the bottom of our rivers, or doze all winter in the caverns of the earth. I am myself something of a traveller, and foreign countries afford many novel sights: should I assert, that in some of my peregrinations I had met with a nation of Indians, all of whom, old and young, at the commencement of cold weather, descend to the bottom of their lakes and rivers, and there remain until the breaking up of frost; nay, should I affirm, that thousands of people in the neighbourhood of this city, regularly undergo the same semi-annual submersion,—that I myself had fished up a whole family of these from the bottom of Schuylkill, where they had lain *torpid* all winter, carried them home, and brought them all comfortably to themselves again—should I even publish this in the learned pages of the *Transactions* of our Philosophical Society, who would believe me? Is, then, the organization of a swallow less delicate than that of a man? Can a bird, whose vital functions are destroyed by a short privation of pure air and its usual food, sustain, for six months, a situation where the most robust man would perish in a few hours, or minutes? Away with such absurdities! they are unworthy of a serious refutation. I should be pleased to meet with a man who has been personally more conversant with birds than myself, who has followed them in their wide and devious routes—studied their various manners—mingled with and marked their peculiarities more than I have done; yet the miracle of a resuscitated swallow, in the depth of winter, from the bottom of a mill-pond, is, I confess, a phenomenon in ornithology that I have never met with.

What better evidence have we that these fleet-winged tribes, instead of following the natural and acknowledged migrations of many other birds, lie torpid all winter in hollow trees, caves, and other subterraneous recesses? That the chimney swallow, in the early part of summer, may have been found in a hollow tree, and in great numbers too, is not denied; such being, in some places of the country, (as has been shewn in the history of that species,) their actual places of rendezvous, on their first arrival, and their common roosting place long after; or that the bank swallows, also, soon after their arrival, in the early part of spring, may be chilled by the cold mornings which we frequently experience at that season, and be found in this state in their holes, I would as little dispute; but that either the one or the other has ever been found, *in the midst of winter* in a state of *torpidity*, I do not, cannot believe. Millions of trees, of all dimensions, are cut down every fall and winter of this country, where, in their proper season, swallows swarm around us. Is it therefore in the least probable that we should, only once or twice in an age, have no other evidence than one or two solitary and very suspicious reports of a Mr Somebody having made a discovery of this kind? If caves were their places of winter retreat, perhaps no country on earth could supply them with a greater choice. I have myself explored many of these, in various parts of the United States, both in winter and in spring, particularly in that singular tract of country in Kentucky, called the Barrens, where some of these subterraneous caverns are several miles in length, lofty and capacious, and pass under a large and deep river—have conversed with the saltpetre workers by whom they are tenanted; but never heard or met with one instance of a swallow having been found there in winter. These people treated such reports with ridicule.

It is to be regretted that a greater number of experiments have not been made, by keeping live swallows through the winter, to convince these believers in the torpidity of birds, of their mistake. That class of cold-

blooded animals which are *known* to become torpid during winter, and of which hundreds and thousands are found every season, are subject to the same when kept in a suitable room for experiment. How is it with the swallows in this respect? Much powerful testimony might be produced on this point; the following experiments recently made by Mr James Pearson of London, and communicated by Sir John Trevelyn, Bart. to Mr Bewick, the celebrated engraver in wood, will be sufficient for our present purpose, and throw great light on this part of the subject.*

“ Five or six of these birds were taken about the latter end of August, 1784, in a bat fowling-net at night. They were put separately into small cages, and fed with nightingale’s food: in about a week or ten days they took food of themselves; they were then put all together into a deep cage, four feet long, with gravel at the bottom; a broad shallow pan with water was placed in it, in which they sometimes washed themselves, and seemed much strengthened by it. One day Mr Pearson observed, that they went into the water with unusual eagerness, hurrying in and out again repeatedly with such swiftness as if they had been suddenly seized with a frenzy. Being anxious to see the result, he left them to themselves about half an hour, and, going to the cage again, found them all huddled together in a corner apparently dead; the cage was then placed at a proper distance from the fire, when only two of them recovered, and were as healthy as before—the rest died. The two remaining ones were allowed to wash themselves occasionally for a short time only; but their feet soon after became swelled and inflamed, which Mr Pearson attributed to their perching, and they died about Christmas. Thus the first year’s experiment was in some measure lost. Not discouraged by the failure of this, Mr Pearson determined to make a second trial the succeeding year, from a strong desire of being convinced

* See BEWICK’S *British Birds*, vol. i, p. 254.

of the truth of their going into a state of torpidity. Accordingly, the next season, having taken some more birds, he put them into the cage, and in every respect pursued the same methods as with the last; but, to guard their feet from the bad effects of the damp and cold, he covered the perches with flannel, and had the pleasure to observe, that the birds throve extremely well; they sung their song during the winter, and, soon after Christmas, began to moult, which they got through without any difficulty, and lived three or four years, regularly moulting every year at the usual time. On the renewal of their feathers, it appeared that their tails were forked exactly the same as in those birds which return hither in the spring, and in every respect their appearance was the same. These birds, says Mr Pearson, were exhibited to the Society for promoting Natural History, on the 14th day of February, 1786, at the time they were in a deep moult, during a severe frost, when the snow was on the ground. Minutes of this circumstance were entered in the books of the society. These birds died at last from neglect, during a long illness which Mr Pearson had: they died in the summer. Mr Pearson concludes his very interesting account in these words:—20th January, 1797, I have now in my house, No. 21, Great Newport Street, Long Acre, four swallows in moult, in as perfect health as any birds ever appeared to be when moulting.”

The barn swallow of the United States has hitherto been considered by many writers as the same with the common chimney swallow of Europe. They differ, however, considerably in colour, as well as in habits; the European species having the belly and vent white, the American species those parts of a bright chestnut; the former building in the corners of chimneys, near the top, the latter never in such places; but usually in barns, sheds, and other outhouses, on beams, braces, rafters, &c. It is difficult to reconcile these constant differences of manners and markings in one and the

same bird; I shall therefore take the liberty of considering the present as a separate and distinct species.

The barn swallow arrives in this part of Pennsylvania from the south on the last week in March, or the first week in April, and passes on to the north as far, at least, as the river St Lawrence. On the east side of the great range of the Alleghany, they are dispersed very generally over the country, wherever there are habitations, even to the summit of high mountains; but, on account of the greater coldness of such situations, are usually a week or two later in making their appearance there. On the 16th of May, being on a shooting expedition on the top of Pocano mountain, Northampton, when the ice on that and on several successive mornings was more than a quarter of an inch thick, I observed, with surprise, a pair of these swallows which had taken up their abode on a miserable cabin there. It was then about sunrise, the ground white with hoar frost, and the male was twittering on the roof by the side of his mate with great sprightliness. The man of the house told me that a single pair came regularly there every season, and built their nest on a projecting beam under the eaves, about six or seven feet from the ground. At the bottom of the mountain, in a large barn belonging to the tavern there, I counted upwards of twenty nests, all seemingly occupied. In the woods they are never met with; but, as you approach a farm, they soon catch the eye, cutting their gambols in the air. Scarcely a barn, to which these birds can find access, is without them; and, as public feeling is universally in their favour, they are seldom or never disturbed. The proprietor of the barn last mentioned, a German, assured me, that if a man permitted the swallows to be shot, his cows would give bloody milk, and also that no barn where swallows frequented would ever be struck with lightning; and I nodded assent. When the tenets of superstition "lean to the side of humanity," one can readily respect them. On the west side of the Alleghany these birds become more rare.

In travelling through the States of Kentucky and Tennessee, from Lexington to the Tennessee river, in the months of April and May, I did not see a single individual of this species; though the purple martin, and, in some places, the bank swallow, was numerous.

Early in May they begin to build. From the size and structure of the nest, it is nearly a week before it is completely finished. One of these nests, taken on the 21st of June from the rafter to which it was closely attached, is now lying before me. It is in the form of an inverted cone, with a perpendicular section cut off on that side by which it adhered to the wood. At the top it has an extension of the edge, or offset, for the male or female to sit on occasionally, as appeared by the dung; the upper diameter was about six inches by five, the height externally seven inches. This shell is formed of mud, mixed with fine hay, as plasterers do their mortar with hair, to make it adhere the better; the mud seems to have been placed in regular strata, or layers, from side to side; the hollow of this cone (the shell of which is about an inch in thickness) is filled with fine hay, well stuffed in; above that is laid a handful of very large downy geese feathers; the eggs are five, white, specked, and spotted all over with reddish brown. Owing to the semitransparency of the shell, the eggs have a slight tinge of flesh colour. The whole weighs about two pounds.

They have generally two brood in the season. The first make their appearance about the second week in June; and the last brood leave the nest about the 10th of August. Though it is not uncommon for twenty, and even thirty, pair to build in the same barn, yet every thing seems to be conducted with great order and affection; all seems harmony among them, as if the interest of each were that of all. Several nests are often within a few inches of each other; yet no appearance of discord or quarrelling takes place in this peaceful and affectionate community.

When the young are fit to leave the nest, the old ones entice them out by fluttering backwards and

forwards, twittering and calling to them every time they pass; and the young exercise themselves, for several days, in short essays of this kind, within doors, before they first venture abroad. As soon as they leave the barn, they are conducted by their parents to the trees, or bushes, by the pond, creek, or river shore, or other suitable situation, where their proper food is most abundant, and where they can be fed with the greatest convenience to both parties. Now and then they take a short excursion themselves, and are also frequently fed while on wing by an almost instantaneous motion of both parties, rising perpendicularly in air, and meeting each other. About the middle of August they seem to begin to prepare for their departure. They assemble on the roof in great numbers, dressing and arranging their plumage, and making occasional essays, twittering with great cheerfulness. Their song is a kind of sprightly warble, sometimes continued for a considerable time. From this period to the 8th of September, they are seen near the Schuylkill and Delaware, every afternoon, for two or three hours before sunset, passing along to the south in great numbers, feeding as they skim along. I have counted several hundreds pass within sight in less than a quarter of an hour, all directing their course towards the south. The reeds are now their regular roosting places; and, about the middle of September, there is scarcely an individual of them to be seen. How far south they continue their route is uncertain; none of them remain in the United States. Mr Bartram informs me, that, during his residence in Florida, he often saw vast flocks of this and our other swallows, passing from the peninsula towards the south in September and October; and also on their return to the north about the middle of March. It is highly probable, that, were the countries to the south of the Gulf of Mexico, and as far south as the great river Maranon, visited and explored by a competent naturalist, these regions would be found to be the winter rendezvous of the very birds now before us, and most of our other migratory tribes.

In a small volume which I have lately met with, entitled, *An Account of the British Settlement of Honduras*, by Captain George Henderson, of the 5th West India regiment, published in London in 1809, the writer, in treating of that part of its natural history which relates to birds, gives the following particulars:—“Myriads of swallows,” says he, “are also the occasional inhabitants of Honduras. The time of their residence is generally confined to the period of the rains, [that is, from October to February,] after which, they totally disappear. There is something remarkably curious and deserving of notice in the ascent of these birds. As soon as the dawn appears they quit their place of rest, which is usually chosen amid the rushes of some watery savannah; and invariably rise to a certain height, in a compact spiral form, and which at a distance often occasions them to be taken for an immense column of smoke. This attained, they are then seen separately to disperse in search of food, the occupation of their day. To those who may have had the opportunity of observing the phenomenon of a water-spout, the similarity of evolution, in the ascent of these birds, will be thought surprisingly striking. The descent, which regularly takes place at sunset, is conducted much in the same way, but with inconceivable rapidity. And the noise which accompanies this can only be compared to the falling of an immense torrent, or the rushing of a violent gust of wind. Indeed, to an observer, it seems wonderful, that thousands of these birds are not destroyed, in being thus propelled to the earth with such irresistible force.”*

How devoutly it is to be wished that the natural history of those regions were more precisely known, so absolutely necessary as it is to the perfect understanding of this department of our own!

The barn swallow is seven inches long, and thirteen inches in extent; bill, black; upper part of the head, neck, back, rump, and tail-coverts, steel blue, which

* HENDERSON'S *Honduras*, p. 119.

descends rounding on the breast; front and chin, deep chestnut; belly, vent, and lining of the wing, light chestnut; wings and tail, brown black, slightly glossed with reflections of green; tail, greatly forked, the exterior feather on each side an inch and a half longer than the next, and tapering towards the extremity, each feather, except the two middle ones, marked on its inner vane with an oblong spot of white; lores, black; eye, dark hazel; sides of the mouth, yellow; legs, dark purple.

The female differs from the male in having the belly and vent rufous white, instead of light chestnut; these parts are also slightly clouded with rufous; and the exterior tail-feathers are shorter.

These birds are easily tamed, and soon become exceedingly gentle and familiar. I have frequently kept them in my room for several days at a time, where they employed themselves in catching flies, picking them from my clothes, hair, &c. calling out occasionally as they observed some of their old companions passing the windows.

72. *HIRUNDO VIRIDIS*, WILSON. — *H. BICOLOR*, VIEILL.

GREEN, BLUE, OR WHITE BELLIED SWALLOW, WILSON.

WILSON, PLATE XXXVIII. FIG. III.

THIS is the species hitherto supposed by Europeans to be the same with their common martin, *hirundo urbana*, a bird no where to be found within the United States. The English martin is blue black above; the present species greenish blue; the former has the whole rump white, and the legs and feet are covered with short white downy feathers; the latter has nothing of either. That ridiculous propensity in foreign writers, to consider most of our birds as varieties of their own, has led them into many mistakes, which it shall be the business of the author of the present work to point out, decisively, wherever he may meet with them.

The white-bellied swallow arrives in Pennsylvania a

few days later than the preceding species. It often takes possession of an apartment in the boxes appropriated to the purple martin; and also frequently builds and hatches in a hollow tree. The nest consists of fine loose dry grass, lined with large downy feathers, rising above its surface, and so placed as to curl inwards, and completely conceal the eggs. These last are usually four or five in number, and pure white. They also have two brood in the season.

The voice of this species is low and guttural; they are more disposed to quarrel than the barn swallows, frequently fighting in the air for a quarter of an hour at a time, particularly in spring, all the while keeping up a low rapid chatter. They also sail more in flying; but, during the breeding season, frequent the same situations in quest of similar food. They inhabit the northern Atlantic States as far as the District of Maine, where I have myself seen them; and my friend Mr Gardner informs me, that they are found on the coast of Long Island and its neighbourhood. About the middle of July, I observed many hundreds of these birds sitting on the flat sandy beach near the entrance of Great Egg-Harbour. They were also very numerous among the myrtles of these low islands, completely covering some of the bushes. One man told me, that he saw one hundred and two shot at a single discharge. For some time before their departure, they subsist principally on the myrtle berries (*myrica cerifera*,) and become extremely fat. They leave us early in September.

This species appears to have remained hitherto undescribed, owing to the misapprehension before mentioned. It is not perhaps quite so numerous as the preceding, and rarely associates with it to breed, never using mud of any kind in the construction of its nest.

The white-bellied swallow is five inches and three quarters long, and twelve inches in extent; bill and eye, black; upper parts, a light glossy greenish blue; wings, brown black, with slight reflections of green; tail, forked, the two exterior feathers being about a quarter

of an inch longer than the middle ones, and all of a uniform brown black; lores, black; whole lower parts, pure white; wings, when shut, extend about a quarter of an inch beyond the tail; legs, naked, short, and strong, and, as well as the feet, of a dark purplish flesh colour; claws, stout.

The female has much less of the greenish gloss than the male, the colours being less brilliant; otherwise alike.

73. *HIRUNDO RIPARIA*, LINN.—BANK SWALLOW, OR SAND MARTIN.

WILSON, PLATE XXXVIII. FIG. IV.—EDINBURGH COLLEGE MUSEUM.

THIS appears to be the most sociable with its kind, and the least intimate with man, of all our swallows; living together in large communities of sometimes three or four hundred. On the high sandy bank of a river, quarry, or gravel pit, at a foot or two from the surface, they commonly scratch out holes for their nests, running them in a horizontal direction to the depth of two and sometimes three feet. Several of these holes are often within a few inches of each other, and extend in various strata along the front of the precipice, sometimes for eighty or one hundred yards. At the extremity of this hole, a little fine dry grass, with a few large downy feathers, form the bed on which their eggs, generally five in number, and pure white, are deposited. The young are hatched late in May; and here I have taken notice of the common crow, in parties of four or five, watching at the entrance of these holes, to seize the first straggling young that should make its appearance. From the clouds of swallows that usually play round these breeding places, they remind one at a distance of a swarm of bees.

The bank swallow arrives here earlier than either of the preceding; begins to build in April, and has commonly two brood in the season. Their voice is a low

mutter. They are particularly fond of the shores of rivers, and, in several places along the Ohio, they congregate in immense multitudes. We have sometimes several days of cold rain and severe weather after their arrival in spring, from which they take refuge in their holes, clustering together for warmth, and have been frequently found at such times in almost a lifeless state with the cold; which circumstance has contributed to the belief that they lie torpid all winter in these recesses. I have searched hundreds of these holes in the months of December and January, but never found a single swallow, dead, living, or torpid. I met with this bird in considerable numbers on the shores of the Kentucky river, between Lexington and Danville. They likewise visit the sea shore, in great numbers, previous to their departure, which continues from the last of September to the middle of October.

The bank swallow is five inches long, and ten inches in extent; upper parts, mouse coloured, lower, white, with a band of dusky brownish across the upper part of the breast; tail, forked, the exterior feather slightly edged with whitish; lores and bill, black; legs, with a few tufts of downy feathers behind; claws, fine pointed, and very sharp; over the eye, a streak of whitish; lower side of the shafts, white; wings and tail, darker than the body. The female differs very little from the male.

This bird appears to be in nothing different from the European species; from which circumstance, and its early arrival here, I would conjecture that it passes to a high northern latitude on both continents.

FAMILY X.

CANORI, ILLIGER.

GENUS XVI.—*MUSCICAPA*, LINNÆUS.

74. *MUSCICAPA TYRANNUS*, BRISSON, WILSON, AND LINNÆUS.

TYRANT FLYCATCHER, OR KING BIRD.

WILSON, PLATE XIII. FIG. I. EDINBURGH COLLEGE MUSEUM.

THIS is the field martin of Maryland and some of the southern States, and the king bird of Pennsylvania and several of the northern districts. The epithet *tyrant*, which is generally applied to him by naturalists, I am not altogether so well satisfied with; some, however, may think the two terms pretty nearly synonymous.

The trivial name king as well as tyrant has been bestowed on this bird for its extraordinary behaviour, and the authority it assumes over all others, during the time of breeding. At that season his extreme affection for his mate, and for his nest and young, makes him suspicious of every bird that happens to pass near his residence, so that he attacks, without discrimination, every intruder. In the months of May, June, and part of July, his life is one continued scene of broils and battles; in which, however, he generally comes off conqueror. Hawks and crows, the bald eagle, and the great black eagle, all equally dread a rencounter with this dauntless little champion, who, as soon as he perceives one of these last approaching, lanches into the air to meet him, mounts to a considerable height above him, and darts down on his back, sometimes fixing there to the great annoyance of his sovereign, who, if no convenient retreat or resting place be near, endeavours by various evolutions to rid himself of his merciless adversary. But the king bird is not so easily

dismounted. He teases the eagle incessantly, sweeps upon him from right and left, remounts, that he may descend on his back with the greater violence; all the while keeping up a shrill and rapid twittering; and continuing the attack sometimes for more than a mile, till he is relieved by some other of his tribe equally eager for the contest.

There is one bird, however, which, by its superior rapidity of flight, is sometimes more than a match for him; and I have several times witnessed his precipitate retreat before this active antagonist. This is the purple martin, one whose food and disposition is pretty similar to his own, but who has greatly the advantage of him on wing, in eluding all his attacks, and teasing him as he pleases. I have also seen the red-headed woodpecker, while clinging on a rail of the fence, amuse himself with the violence of the king bird, and play *bo-peep* with him round the rail, while the latter, highly irritated, made every attempt, as he swept from side to side, to strike him, but in vain. All his turbulence, however, vanishes as soon as his young are able to shift for themselves; and he is then as mild and peaceable as any other bird.

But he has a worse habit than all these; one much more obnoxious to the husbandman, and often fatal to himself. He loves, not the honey, but the *bees*; and, it must be confessed, is frequently on the look-out for these little industrious insects. He plants himself on a post of the fence, or on a small tree in the garden, not far from the hives, and from thence sallies on them as they pass and repass, making great havoc among their numbers. His shrill twitter, so near to the house, gives intimation to the farmer of what is going on, and the gun soon closes his career for ever. Man arrogates to himself, in this case, the exclusive privilege of murder; and, after putting thousands of these same little insects to death, seizes on the fruits of their labour.

The king birds arrive in Pennsylvania about the 20th of April, sometimes in small bodies of five and six together, and are at first very silent, until they begin to

pair, and build their nest. This generally takes place about the first week in May. The nest is very often built in the orchard, on the horizontal branch of an apple tree; frequently also, as Catesby observes, on a sassafras tree, at no great height from the ground. The outside consists of small slender twigs, tops of withered flowers of the plant yarrow, and others, well wove together with tow and wool; and is made large, and remarkably firm and compact. It is usually lined with fine dry fibrous grass, and horse hair. The eggs are five, of a very pale cream colour, or dull white, marked with a few large spots of deep purple, and other smaller ones of light brown, chiefly, though not altogether, towards the great end. They generally build twice in the season.

The king bird is altogether destitute of song, having only the shrill twitter above mentioned. His usual mode of flight is singular. The vibrations of his broad wings, as he moves slowly over the fields, resemble those of a hawk hovering and settling in the air to reconnoitre the ground below; and the object of the king bird is no doubt something similar, viz. to look out for passing insects, either in the air, or among the flowers and blossoms below him. In fields of pasture he often takes his stand, on the tops of the mullein, and other rank weeds, near the cattle, and makes occasional sweeps after passing insects, particularly the large black gadfly, so terrifying to horses and cattle. His eye moves restlessly around him, traces the flight of an insect for a moment or two, then that of a second, and even a third, until he perceives one to his liking, when, with a shrill sweep, he pursues, seizes it, and returns to the same spot again, to look out for more. This habit is so conspicuous when he is watching the bee-hive, that several intelligent farmers of my acquaintance are of opinion that he picks out only the drones, and never injures the working bees. Be this as it may, he certainly gives a preference to one bee, and one species of insect, over another. He hovers over the river, sometimes for a considerable time, darting after insects that frequent such places, snatching them from the surface of the

water, and diving about in the air like a swallow; for he possesses at will great powers of wing. Numbers of them are frequently seen thus engaged, for hours together, over the rivers Delaware and Schuylkill, in a calm day, particularly towards evening. He bathes himself by diving repeatedly into the water from the overhanging branches of some tree, where he sits to dry and dress his plumage.

Whatever antipathy may prevail against him for depredations on the drones, or, if you will, on the bees, I can assure the cultivator, that this bird is greatly his friend, in destroying multitudes of insects, whose larvæ prey on the harvests of his fields, particularly his corn, fruit trees, cucumbers, and pumpkins. These noxious insects are the daily food of this bird; and he destroys, upon a very moderate average, some hundreds of them daily. The death of every king bird is therefore an actual loss to the farmer, by multiplying the numbers of destructive insects, and encouraging the depredations of crows, hawks, and eagles, who avoid as much as possible his immediate vicinity. For myself, I must say, that the king bird possesses no common share of my regard. I honour this little bird for his extreme affection for his young; for his contempt of danger, and unexampled intrepidity; for his meekness of behaviour when there are no calls on his courage, a quality which even in the human race is justly considered so noble:

In peace there's nothing so becomes a man
As modest stillness and humility;
But when the blast of war, &c.

but above all, I honour and esteem this bird for the millions of ruinous vermin which he rids us of; whose depredations, in *one* season, but for the services of this and other friendly birds, would far overbalance all the produce of the bee-hives in fifty.

As a friend to this persecuted bird, and an enemy to prejudices of every description, will the reader allow me to set this matter in a somewhat clearer light, by presenting him with a short poetical epitome of the king bird's history?

Far in the south, where vast Maragnon flows,
And boundless forests unknown wilds enclose ;
Vine-tangled shores, and suffocating woods,
Parch'd up with heat, or drown'd with pouring floods ;
Where each extreme alternately prevails,
And Nature sad their ravages bewails ;
Lo ! high in air, above those trackless wastes,
With Spring's return the king bird hither hastes ;
Coasts the famed Gulf,* and, from his height, explores
Its thousand streams, its long indented shores,
Its plains immense, wide opening on the day,
Its lakes and isles, where feather'd millions play ;
All tempt not him : till, gazing from on high,
COLUMBIA's regions wide below him lie ;
There end his wand'rings and his wish to roam,
There lie his native woods, his fields, his home ;
Down, circling, he descends, from azure heights,
And on a full-blown sassafras alights.

Fatigued and silent, for a while he views
His old frequented haunts, and shades recluse,
Sees brothers, comrades, every hour arrive—
Hears, humming round, the tenants of the hive :
Love fires his breast ; he woos, and soon is blest ;
And in the blooming orchard builds his nest.

Come now, ye cowards ! ye whom heav'n disdains,
Who boast the happiest home—the richest plains ;
On whom, perchance, a wife, an infant's eye
Hang as their hope, and on your arm rely ;
Yet, when the hour of danger and dismay
Comes on that country, sneak in holes away,
Shrink from the perils ye were bound to face,
And leave those babes and country to disgrace ;
Come here, (if such we have,) ye dastard herd !
And kneel in dust before this noble bird.

When the speck'd eggs within his nest appear,
Then glows affection, ardent and sincere ;
No discord sours him when his mate he meets ;
But each warm heart with mutual kindness beats.
For her repast he bears along the lea
The bloated gadfly, and the balmy bee ;
For her repose scours o'er th' adjacent farm,
Whence hawks might dart, or lurking foes alarm ;
For now abroad a band of ruffians prey,
The crow, the cuckoo, and th' insidious jay ;

* Of Mexico.

These, in the owner's absence, all destroy,
And murder every hope, and every joy.

Soft sits his brooding mate ; her guardian he,
Perch'd on the top of some tall neighb'ring tree ;
Thence, from the thicket to the concave skies,
His watchful eye around unceasing flies.
Wrens, thrushes, warblers, startled at his note,
Fly in affright the consecrated spot.
He drives the plund'ring jay, with honest scorn,
Back to his woods ; the *mock*er to his thorn ;
Sweeps round the *cuckoo*, as the thief retreats ;
Attacks the *crow* ; the diving *hawk* defeats ;
Darts on the *eagle* downwards from afar,
And, 'midst the clouds, prolongs the whirling war.
All danger o'er, he hastens back elate,
To guard his post, and feed his faithful mate.

Behold him now, his little family flown,
Meek, unassuming, silent, and alone ;
Lured by the well-known hum of fav'rite bees,
As slow he hovers o'er the garden trees ;
(For all have failings, passions, whims that lead ;
Some fav'rite wish, some appetite to feed ;)
Straight he alights, and, from the pear-tree, spies
The circling stream of humming insects rise ;
Selects his prey ; darts on the busy brood,
And shrilly twitters o'er his sav'ry food.

Ah ! ill-timed triumph ! direful note to thee,
That guides thy murderer to the fatal tree ;
See where he skulks ! and takes his gloomy stand,
The deep-charged musket hanging in his hand ;
And, gaunt for blood, he leans it on a rest,
Prepared, and pointed at thy snow-white breast.
Ah friend ! good friend ! forbear that barb'rous deed,
Against it valour, goodness, pity, bleed ;
If e'er a family's griefs, a widow's wo,
Have reach'd thy soul, in mercy let him go !
Yet, should the tear of pity nought avail,
Let *interest* speak, let *gratitude* prevail ;
Kill not thy friend, who thy whole harvest shields,
And sweeps ten thousand vermin from thy fields ;
Think how this dauntless bird, thy poultry's guard,
Drove ev'ry hawk and eagle from thy yard ;
Watch'd round thy cattle as they fed, and slew
The hungry black'ning swarms that round them flew ;
Some small return, some little right resign,
And spare *his* life whose services are thine !
— I plead in vain ! Amid the bursting roar,
The poor, lost king bird, welters in his gore !

This species is eight inches long, and fourteen in extent; the general colour above is a dark slaty ash; the head and tail are nearly black; the latter *even* at the end, and tipped with white; the wings are more of a brownish cast; the quills and wing-coverts are also edged with dull white; the upper part of the breast is tinged with ash; the throat, and all the rest of the lower parts, are pure white; the plumage on the crown, though not forming a crest, is frequently erected, and discovers a rich bed of brilliant orange, or flame colour, called by the country people his crown; when the feathers lie close, this is altogether concealed. The bill is very broad at the base, overhanging at the point, and notched, of a glossy black colour, and furnished with bristles at the base; the legs and feet are black, seamed with gray; the eye, hazel. The female differs in being more brownish on the upper parts, has a smaller streak of paler orange on the crown, and a narrower border of duller white on the tail. The young birds do not receive the orange on the head during their residence here the first season.

This bird is very generally known, from the Lakes to Florida. Besides insects, they feed, like every other species of their tribe with which I am acquainted, on various sorts of berries, particularly blackberries, of which they are extremely fond. Early in September they leave Pennsylvania, on their way to the south.

A few days ago, I shot one of these birds, the whole plumage of which was nearly white, or a little inclining to a cream colour; it was a bird of the present year, and could not be more than a month old. This appeared also to have been its original colour, as it issued from the egg. The skin was yellowish-white; the eye, much lighter than usual; the legs and bill, blue. It was plump, and seemingly in good order. I presented it to Mr Peale. Whatever may be the cause of this loss of colour, if I may so call it, in birds, it is by no means uncommon among the various tribes that inhabit the United States. The sparrow hawk, sparrow, robin, red-winged blackbird, and many others, are occasionally

found in white plumage ; and I believe that such birds do not become so by climate, age, or disease, but that they are universally hatched so. The same phenomena are observable not only among various sorts of animals, but even among the human race ; and a white negro is no less common, in proportion to their numbers, than a white blackbird ; though the precise cause of this in either is but little understood.

75. *MUSCICAPA CRINITA*, LINNÆUS AND WILSON.

GREAT CRESTED FLYCATCHER.

WILSON, PL. XIII. FIG. II.

THE bird now before us is less generally known than the preceding, being chiefly confined to the woods. There his harsh *squeak*, for he has no song, is occasionally heard above most others. He also visits the orchard ; is equally fond of bees ; but wants the courage and magnanimity of the king bird. He arrives in Pennsylvania early in May, and builds his nest in a hollow tree, deserted by the bluebird or woodpecker. The materials of which this is formed are scanty, and rather novel. One of these nests, now before me, is formed of a little loose hay, feathers of the Guinea fowl, hogs' bristles, pieces of cast snake skins, and dogs' hair. Snake skins with this bird appear to be an indispensable article, for I have never yet found one of his nests without this material forming a part of it. Whether he surrounds his nest with this by way of *terrorem*, to prevent other birds or animals from entering ; or whether it be that he finds its silky softness suitable for his young, is uncertain ; the fact, however, is notorious. The female lays four eggs of a dull cream colour, thickly scratched with purple lines of various tints as if done with a pen.

This species is eight inches and a half long, and thirteen inches in extent ; the upper parts are of a dull greenish olive ; the feathers on the head are pointed, centred with dark brown, ragged at the sides, and form

a kind of blowzy crest; the throat, and upper parts of the breast, delicate ash; rest of the lower parts, a sulphur yellow; the wing-coverts are pale drab, crossed with two bars of dull white; the primaries are of a bright ferruginous, or sorrel colour; the tail is slightly forked, its interior vanes of the same bright ferruginous as the primaries; the bill is blackish, very much like that of the king bird, furnished also with bristles; the eye is hazel; legs and feet, bluish black. The female can scarcely be distinguished, by its colours, from the male.

This bird also feeds on berries towards the end of summer, particularly on huckle-berries, which, during the time they last, seem to form the chief sustenance of the young birds. I have observed this species here as late as the 10th of September; rarely later. They do not, to my knowledge, winter in any of the southern States.

76. *MUSCICAPA QUERULA*, WILSON. — *M. ACADICA*, GMELIN.

SMALL GREEN CRESTED FLYCATCHER.

WILSON, PLATE XIII. FIG. III.

THIS bird is but little known. It inhabits the deepest, thick shaded, solitary parts of the woods, sits generally on the lower branches, utters, every half minute or so, a sudden sharp squeak, which is heard a considerable way through the woods; and, as it flies from one tree to another, has a low querulous note, something like the twitterings of chickens nestling under the wings of the hen. On alighting, this sound ceases, and it utters its note as before. It arrives from the south about the middle of May; builds on the upper side of a limb, in a low swampy part of the woods, and lays five white eggs. It leaves us about the beginning of September. It is a rare and very solitary bird, always haunting the most gloomy, moist, and unfrequented parts of the forest. It feeds on flying insects, devours bees, and, in the season of huckle-berries, they form the chief part of its food. Its northern migrations extend as far as Newfoundland.

The length of this species is five inches and a half; breadth, nine inches; the upper parts are of a green olive colour, the lower, pale greenish yellow, darkest on the breast; the wings are deep brown, crossed with two bars of yellowish white, and a ring of the same surrounds the eye, which is hazel. The tail is rounded at the end; the bill is remarkably flat and broad, dark brown above, and flesh colour below; legs and feet, pale ash. The female differs little from the male in colour.

77. *MUSCICAPA NUNCIOLA*, WILSON. — *M. FUSCA*, GMELIN.

PEWIT FLYCATCHER.

THIS well-known bird is one of our earliest spring visitants, arriving in Pennsylvania about the first week in March, and continuing with us until October. I have seen them here as late as the 12th of November. In the month of February, I overtook these birds lingering in the low swampy woods of North and South Carolina. They were feeding on smilax berries, and chanting, occasionally, their simple notes. The favourite resort of this bird is by streams of water, under or near bridges, in caves, &c. Near such places he sits on a projecting twig, calling out, *pe-wee, pe-wittitee pe-wee*, for a whole morning; darting after insects, and returning to the same twig; frequently flirting his tail, like the wagtail, though not so rapidly. He begins to build about the 20th or 25th of March, on some projecting part under a bridge, in a cave, in an open well, five or six feet down among the interstices of the side walls, often under a shed, in the low eaves of a cottage, and such like places. The outside is composed of mud mixed with moss, is generally large and solid, and lined with flax and horse hair. The eggs are five, pure white, with two or three dots of red near the great end. I have known them rear three brood in one season.

In a particular part of Mr Bartram's woods, with which I am acquainted, by the side of a small stream, is a cave, five or six feet high, formed by the under-

mining of the water below, and the projection of two large rocks above:—

There down smooth glist'ning rocks the rivulet pours,
Till in a pool its silent waters sleep,
A dark brow'd cliff, o'ertopp'd with fern and flowers,
Hangs, grimly louring, o'er the glassy deep ;
Above through every chink the woodbines creep,
And smooth-bark'd beeches spread their arms around,
Whose roots cling twisted round the rocky steep ;
A more sequester'd scene is no where found,
For contemplation deep, and silent thought profound.

In this cave I knew the pewit to build for several years. The place was solitary, and he was seldom disturbed. In the month of April, one fatal Saturday, a party of boys from the city, armed with guns, dealing indiscriminate destruction among the feathered tribes around them, directed their murderous course this way, and, within my hearing, destroyed both parents of this old and peaceful settlement. For two successive years, and I believe to this day, there has been no pewee seen about this place. This circumstance almost convinces me that birds, in many instances, return to the same spots to breed; and who knows, but, like the savage nations of Indians, they may usurp a kind of exclusive right of tenure, to particular districts, where they themselves have been reared?

The notes of the pewee, like those of the bluebird, are pleasing, not for any melody they contain, but from the ideas of spring and returning verdure, with all the sweets of this lovely season, which are associated with his simple but lively ditty. Towards the middle of June, he becomes nearly silent; and, late in the fall, gives us a few farewell and melancholy repetitions, that recall past imagery, and make the decayed and withered face of nature appear still more melancholy.

The pewit is six inches and a half in length, and nine and a half broad; the upper parts are of a dark dusky olive; the plumage of the head, like those of the two preceding, is loose, subcrested, and of a deep brownish black; wings and tail, deep dusky; the former edged,

on every feather, with yellowish white, the latter forked, and widening remarkably towards the end ; bill, formed exactly like that of the king bird ; whole lower parts, a pale delicate yellow ; legs and bill, wholly black ; iris, hazel. The female is almost exactly like the male, except in having the crest somewhat more brown. This species inhabits from Canada to Florida ; great numbers of them usually wintering in the two Carolinas and Georgia. In New York, they are called the phoeby bird, and are accused of destroying bees. With many people in the country, the arrival of the pewee serves as a sort of almanack, reminding them that now it is time such and such work should be done. "Whenever the pewit appears," says Mr Bartram, "we may plant peas and beans in the open grounds, French beans, sow radishes, onions, and almost every kind of esculent garden seeds, without fear or danger from frosts ; for, although we have sometimes frosts after their first appearance for a night or two, yet not so severe as to injure the young plants."*

78. *MUSCICAPA RAPAX*, WILSON. — *M. VIRENS*, LINNÆUS.

WOOD PEWEE FLYCATCHER.

I HAVE given the name of wood pewee to this species, to discriminate it from the preceding, which it resembles so much in form and plumage as scarcely to be distinguished from it, but by an accurate examination of both. Yet in manners, mode of building, period of migration, and notes, the two species differ greatly. The pewee is among the first birds that visit us in spring, frequenting creeks, building in caves, and under arches of bridges ; the wood pewee, the subject of our present account, is among the latest of our summer birds, seldom arriving before the 12th or 15th of May ; frequenting the shadiest high timbered woods, where there is little underwood, and abundance of dead twigs

* *Travels*, p. 288.

and branches shooting across the gloom; generally in low situations; builds its nest on the upper side of a limb or branch, forming it outwardly of moss, but using no mud, and lining it with various soft materials. The female lays five white eggs; and the first brood leave the nest about the middle of June.

This species is an exceeding expert flycatcher. It loves to sit on the high dead branches, amid the gloom of the woods, calling out in a feeble, plaintive tone, *peto wāy, peto wāy, pee way*; occasionally darting after insects; sometimes making a circular sweep of thirty or forty yards, snapping up numbers in its way with great adroitness; and returning to its position and chant as before. In the latter part of August, its notes are almost the only ones to be heard in the woods; about which time also, it even approaches the city, where I have frequently observed it busily engaged under trees, in solitary courts, gardens, &c. feeding and training its young to their profession. About the middle of September, it retires to the south, a full month before the other.

Length, six inches; breadth, ten; back, dusky olive, inclining to greenish; head, subcrested, and brownish black; tail, forked and widening towards the tips, lower parts, pale yellowish white. The only discriminating marks between this and the preceding, are the size, and the colour of the lower mandible, which, in this, is yellow; in the pewèe, black. The female is difficult to be distinguished from the male.

This species is far more numerous than the preceding, and, probably, winters much farther south. The pewèe was numerous in North and South Carolina in February; but the wood pewèe had not made its appearance in the lower parts of Georgia, even so late as the 16th of March.

79. *MUSCICAPA RUTICILLA*, LINNÆUS AND WILSON.

AMERICAN REDSTART.

WILSON, PLATE VI. FIG. VI.—ADULT MALE.—EDINBURGH COLLEGE MUSEUM.

THOUGH this bird has been classed by several of our most respectable ornithologists among the warblers, yet in no species are the characteristics of the genus *muscapa* more decisively marked; and, in fact, it is one of the most expert flycatchers of its tribe. It is almost perpetually in motion; and will pursue a retreating party of flies from the tops of the tallest trees, in an almost perpendicular, but zig-zag direction, to the ground, while the clicking of its bill is distinctly heard; and I doubt not but it often secures ten or twelve of these in a descent of three or four seconds. It then alights on an adjoining branch, traverses it lengthwise for a few moments, flirting its expanded tail from side to side, and suddenly shoots off, in a direction quite unexpected, after fresh game, which it can discover at a great distance. Its notes, or twitter, though animated and sprightly, are not deserving the name of song; sometimes they are *weèse, weèse, weèse*, repeated every quarter of a minute, as it skips among the branches; at other times this twitter varies to several other chants, which I can instantly distinguish in the woods, but cannot find words to imitate. The interior of the forest, the borders of swamps and meadows, deep glens covered with wood, and wherever flying insects abound, there this little bird is sure to be seen. It makes its appearance in Pennsylvania, from the south, late in April; and leaves us again about the beginning of September. It is very generally found over the whole United States; and has been taken at sea, in the fall, on its way to St Domingo,* and other of the West India islands, where it winters,† along with many more of our summer visitants. It is also found in Jamaica, where it remains all winter.

* Edwards.

† Sloane.

The name of redstart, evidently derived from the German rothsterts, (red tail,) has been given this bird from its supposed resemblance to the redstart of Europe (*motacilla phoenicurus*); but besides being decisively of a different genus, it is very different both in size and in the tints and disposition of the colours of its plumage. Buffon goes even so far as to question whether the differences between the two be more than what might naturally be expected from change of climate. This eternal reference of every animal of the New World to that of the Old, if adopted to the extent of this writer, with all the transmutations it is supposed to have produced, would leave us in doubt whether even the ka-te-dids* of America were not originally nightingales of the Old World, degenerated by the inferiority of the food and climate of this upstart continent. We have in America many different species of birds that approach so near in resemblance to one another, as not to be distinguished but by the eye of a naturalist, and on a close comparison; these live in the same climate, feed on the same food, and are, I doubt not, the same now as they were five thousand years ago; and, ten thousand years hence, if the species then exist, will be found marked with the same nice discriminations as at present. Is it therefore surprising, that two different species, placed in different quarters of the world, should have certain near resemblances to one another, without being bastards, or degenerated descendants, the one of the other, when the whole chain of created beings seem united to each other by such amazing gradations, that bespeak, not random chance and accidental degeneracy, but the magnificent design of an incomprehensibly wise and omnipotent Creator?

The American redstart builds frequently in low bushes, or on the drooping branches of the elm, within a few feet of the ground, fastening its nest to two twigs; outwardly it is formed of flax, well wound together, and moistened with its saliva, interspersed

* A species of gryllus, well known for its lively chatter during the evenings and nights of September and October.

here and there with pieces of lichen, and lined with a very soft downy substance. The female lays five white eggs, sprinkled with gray, and specks of blackish. The male is extremely anxious for its preservation; and, on a person's approaching the place, will flirt about within a few feet, seeming greatly distressed.

The length of this species is five inches, extent, six and a quarter; the general colour above is black, which covers the whole head and neck, and spreads on the upper part of the breast in a rounding form; where, as well as on the head and neck, it is glossed with steel blue; sides of the breast below this, black, the inside of the wings, and upper half of the wing quills, are of a fine aurora colour; but the greater and lesser coverts of the wings, being black, conceal this; and the orange, or aurora colour, appears only as a broad transverse band across the wings; from thence to the tip, they are brownish; the four middle feathers of the tail are black, the other eight of the same aurora colour, and black towards the tips; belly and vent, white, slightly streaked with pale orange; legs, black; bill, of the true *muscapa* form, triangular at the base, beset with long bristles, and notched near the point; the female has not the rich aurora band across the wing; her back and crown are cinereous, inclining to olive; the white below is not so pure; lateral feathers of the tail and sides of the breast, greenish yellow; middle tail feathers, dusky brown. The young males of a year old are almost exactly like the female, differing in these particulars, that they have a yellow band across the wings which the female has not, and the back is more tinged with brown; the lateral tail feathers, are also yellow; middle ones, brownish black; inside of the wings, yellow. On the third season, they receive their complete colours; and, as males of the second year, in nearly the dress of the female, are often seen in the woods, having the same notes as the full plumaged male, it has given occasion to some people to assert, that the females sing as well as the males; and others have taken them for another species. The fact, however, is as I have stated

it. This bird is too little known by people in general to have any provincial name.

80. *MUSCICAPA RUTICILLA*. — REDSTART.

WILSON, PLATE XLV. FIG. II. — YOUNG BIRD.

THE male of this species has just been described; the present is the young bird as he appears for the first two seasons: the female differs very little from it, and chiefly in the green olive being more inclined to ash.

This is one of our summer birds, and, from the circumstance of being found off Hispaniola in November, is supposed to winter in the islands. They leave Pennsylvania about the 20th of September; are dexterous flycatchers, though ranked by European naturalists among the warblers, having the bill notched and beset with long bristles.

In its present dress the redstart makes its appearance in Pennsylvania about the middle or 20th of April; and, from being heard chanting its few sprightly notes, has been supposed by some of our own naturalists to be a different species. I have, however, found both parents of the same nest in the same dress nearly; the female, eggs and nest, as well as the notes of the male, agreeing exactly with those of the redstart; evidence sufficiently satisfactory to me.

Head above, dull slate; throat, pale buff; sides of the breast and four exterior tail feathers, fine yellow, tipped with dark brown; wings and back, greenish olive; tail-coverts, blackish, tipped with ash; belly, dull white; no white or yellow on the wings; legs, dirty purplish brown; bill, black.

The redstart extends very generally over the United States; having myself seen it on the borders of Canada, and also in the Mississippi territory.

This species has the constant habit of flirting its expanded tail from side to side, as it runs along the branches, with its head levelled almost in a line with its body; occasionally shooting off after winged insects,

in a downward zig-zag direction, and, with admirable dexterity, snapping its bill as it descends. Its notes are few and feeble, repeated at short intervals, as it darts among the foliage; having at some times a resemblance to the sounds *sic, sic, saic*; at others of *weesy, weesy*; which last seems to be its call for the female, while the former appears to be its most common note.

GENUS XVII. — *ICTERIA*, Vieill.

81. *ICTERIA VIRIDIS*, BONAPARTE. — *PIPERA POLYGLOTTA*, WILS.

YELLOW-BREASTED CHAT.

WILSON, PLATE VI. FIG. II.

THIS is a very singular bird. In its voice and manners, and the habit it has of keeping concealed, while shifting and vociferating around you, it differs from most other birds with which I am acquainted, and has considerable claims to originality of character. It arrives in Pennsylvania about the first week in May, and returns to the south again as soon as its young are able for the journey, which is usually about the middle of August; its term of residence here being scarcely four months. The males generally arrive several days before the females, a circumstance common with many other of our birds of passage.

When he has once taken up his residence in a favourite situation, which is almost always in close thickets of hazel, brambles, vines, and thick underwood, he becomes very jealous of his possessions, and seems offended at the least intrusion; scolding every passenger as soon as they come within view, in a great variety of odd and uncouth monosyllables, which it is difficult to describe, but which may be readily imitated, so as to deceive the bird himself, and draw him after you for half a quarter of a mile at a time, as I have sometimes amused myself in doing, and frequently without once seeing him. On these occasions, his responses are constant and rapid, strongly expressive of anger and anxiety; and while

the bird itself remains unseen, the voice shifts from place to place, among the bushes, as if it proceeded from a spirit. First is heard a repetition of short notes, resembling the whistling of the wings of a duck or teal, beginning loud and rapid, and falling lower and slower, till they end in detached notes; then a succession of others, something like the barking of young puppies, is followed by a variety of hollow, guttural sounds, each eight or ten times repeated, more like those proceeding from the throat of a quadruped than that of a bird; which are succeeded by others not unlike the mewing of a cat, but considerably hoarser. All these are uttered with great vehemence, in such different keys, and with such peculiar modulations of voice, as sometimes to seem at a considerable distance, and instantly as if just beside you; now on this hand, now on that; so that, from these manœuvres of ventriloquism, you are utterly at a loss to ascertain from what particular spot or quarter they proceed. If the weather be mild and serene, with clear moonlight, he continues gabbling in the same strange dialect, with very little intermission, during the whole night, as if disputing with his own echoes; but probably with a design of inviting the passing females to his retreat; for, when the season is farther advanced, they are seldom heard during the night.

About the middle of May they begin to build. Their nest is usually fixed in the upper part of a bramble bush, in an almost impenetrable thicket; sometimes in a thick vine or small cedar; seldom more than four or five feet from the ground. It is composed outwardly of dry leaves, within these are laid thin strips of the bark of grape-vines, and the inside is lined with fibrous roots of plants, and fine dry grass. The female lays four eggs, slightly flesh-coloured, and speckled all over with spots of brown or dull red. The young are hatched in twelve days; and make their first excursion from the nest about the second week in June. A friend of mine, an amateur in canary birds, placed one of the chat's eggs under a hen canary, who brought it out; but it

died on the second day; though she was so solicitous to feed and preserve it, that her own eggs, which required two days more sitting, were lost through her attention to this.

While the female of the chat is sitting, the cries of the male are still more loud and incessant. When once aware that you have seen him, he is less solicitous to conceal himself; and will sometimes mount up into the air, almost perpendicularly, to the height of thirty or forty feet, with his legs hanging; descending as he rose, by repeated jerks, as if highly irritated, or, as is vulgarly said, "dancing mad." All this noise and gesticulation we must attribute to his extreme affection for his mate and young; and when we consider the great distance which in all probability he comes, the few young produced at a time, and that seldom more than once in the season, we can see the wisdom of Providence very manifestly in the ardency of his passions. Mr Catesby seems to have first figured the yellow-breasted chat; and the singularity of its manners has not escaped him. After repeated attempts to shoot one of them, he found himself completely baffled; and was obliged, as he himself informs us, to employ an Indian for that purpose, who did not succeed without exercising all his ingenuity. Catesby also observed its dancing manœuvres, and supposed that it always flew with its legs extended; but it is only in these paroxysms of rage and anxiety that this is done, as I have particularly observed.

The food of these birds consists chiefly of large black beetles, and other shelled insects; I have also found whortleberries frequently in their stomach, in great quantities, as well as several other sorts of berries. They are very numerous in the neighbourhood of Philadelphia, particularly on the borders of rivulets, and other watery situations, in hedges, thickets, &c. but are seldom seen in the forest, even where there is underwood. Catesby indeed asserts, that they are only found on the banks of large rivers, two or three hundred miles from the sea; but, though this may be the case in South Carolina,

yet in Maryland and New Jersey, and also in New York, I have met with these birds within two hours' walk of the sea, and in some places within less than a mile of the shore. I have not been able to trace him to any of the West India islands; though they certainly retire to Mexico, Guiana, and Brazil, having myself seen skins of these birds in the possession of a French gentleman, which were brought from the two latter countries.

European naturalists have differed very much in classing this bird. That the judicious Mr Pennant, Gmelin, and even Dr Latham, however, should have arranged it with the flycatchers, is certainly very extraordinary; as neither in the particular structure of its bill, tongue, feet, nor in its food or manners, has it any affinity whatever to that genus. Some other ornithologists have removed it to the tanagers; but the bill of the chat when compared with that of the summer red bird, bespeaks it at once to be of a different tribe. Besides, the tanagers seldom lay more than two or three eggs; the chat usually four: the former build on trees; the latter in low thickets. In short, though this bird will not exactly correspond with any known genus, yet the form of its bill, its food, and many of its habits, would almost justify us in classing it with the genus *pipra* (Manakin), to which family it seems most nearly related.

The yellow-breasted chat is seven inches long, and nine inches in extent; the whole upper parts are of a rich and deep olive green, except the tips of the wings, and interior vanes of the wing and tail feathers, which are dusky brown; the whole throat and breast is of a most brilliant yellow, which also lines the inside of the wings, and spreads on the sides immediately below; the belly and vent are white; the front, slate coloured, or dull cinereous; lores, black; from the nostril, a line of white extends to the upper part of the eye, which it nearly encircles; another spot of white is placed at the base of the lower mandible, the bill is strong, slightly curved, sharply ridged on the top, compressed, over-

hanging a little at the tip, not notched, pointed, and altogether black; the tongue is tapering, more fleshy than those of the *musci-capa* tribe, and a little lacerated at the tip; the nostril is oval, and half covered with an arching membrane; legs and feet, light blue, hind claw rather the strongest, the two exterior toes united to the second joint.

The female may be distinguished from the male by the black and white adjoining the eye being less intense or pure than in the male; and in having the inside of the mouth of a dirty flesh colour, which, in the male, is black; in other respects, their plumage is nearly alike.

GENUS XVIII.—*VIREO*, VIEILL.

82. *VIREO FLAVIFRONS*, VIEILL.—*MUSCICAPA SYLVICOLA*, WILS.

YELLOW-THROATED CHAT.

WILSON, PLATE VII. FIG. III.—EDINBURGH COLLEGE MUSEUM.

THIS summer species is found chiefly in the woods, hunting among the high branches; and has an indolent and plaintive note, which it repeats with some little variation, every ten or twelve seconds, like *preed*, *preed*, &c. It is often heard in company with the red-eyed flycatcher (*musci-capa olivacea*), or whip-tom-kelly of Jamaica; the loud energetic notes of the latter, mingling with the soft languid warble of the former, producing an agreeable effect, particularly during the burning heat of noon, when almost every other songster but these two is silent. Those who loiter through the shades of our magnificent forests at that hour, will easily recognize both species. It arrives from the south early in May; and returns again with its young about the middle of September. Its nest, which is sometimes fixed on the upper side of a limb, sometimes on a horizontal branch among the twigs, generally on a tree, is composed outwardly of thin

strips of the bark of grape vines, moss, lichen, &c. and lined with fine fibres of such like substances ; the eggs, usually four, are white, thinly dotted with black, chiefly near the great end. Winged insects are its principal food.

Whether this species has been described before or not, I must leave to the sagacity of the reader, who has the opportunity of examining European works of this kind, to discover.* I have met with no description in Pennant, Buffon, or Latham, that will properly apply to this bird, which may perhaps be owing to the imperfection of the account, rather than ignorance of the species, which is by no means rare.

The yellow-throated flycatcher is five inches and a half long, and nine inches from tip to tip of the expanded wings ; the upper part of the head, sides of the neck, and the back, are of a fine yellow olive ; throat, breast, and line over the eye, which it nearly encircles, a delicate lemon yellow, which, in a lighter tinge, lines the wings ; belly and vent, pure silky white ; lesser wing-coverts, lower part of the back, and rump, ash ; wings, deep brown, almost black, crossed with two white bars ; primaries, edged with light ash, secondaries, with white ; tail, a little forked, of the same brownish black with the wings, the three exterior feathers edged on each vane with white ; legs and claws, light blue ; the two exterior toes united to the middle one, as far as the second joint ; bill, broad at the base, with three or four slight bristles, the upper mandible overhanging the lower at the point, near which it is deeply notched ; tongue, thin, broad, tapering near the end, and bifid ; the eye, is of a dark hazel ; and the whole bill of a dusky light blue. The female differs very little in colour from the male ; the yellow on the breast, and round the eye, is duller, and the white on the wings less pure.

* See Orange-throated Warbler, LATHAM, Syn. ii, 481, 108.

83. *VIREO SOLITARIUS*, VIEILL. — *MUSCICAPA SOLITARIA*, WILS.

SOLITARY FLYCATCHER.

WILSON, PLATE XVII. FIG. VI.

THIS rare species I can find no where described. I have myself never seen more than three of them, all of whom corresponded in their markings; and, on dissection, were found to be males. It is a silent, solitary bird. It is also occasionally found in the State of Georgia, where I saw a drawing of it in the possession of Mr Abbot, who considered it a very scarce species. He could give me no information of the female. The present one was shot in Mr Bartram's woods, near Philadelphia, among the branches of dogwood, in the month of October. It appears to belong to a particular family, or subdivision of the *musci-capa* genus, among which are the white-eyed, the yellow-throated, and several others already described in the present work. Why one species should be so rare, while another, much resembling it, is so numerous, at least a thousand for one, is a question I am unable to answer, unless by supposing the few we meet with here to be accidental stragglers from the great body, which may have their residence in some other parts of our extensive continent.

The solitary flycatcher is five inches long, and eight inches in breadth; cheeks, and upper part of the head and neck, a fine bluish gray; breast, pale cinereous; flanks and sides of the breast, yellow; whole back and tail-coverts, green olive; wings, nearly black; the first and second row of coverts, tipped with white; the three secondaries next the body, edged with pale yellowish white; the rest of the quills bordered with light green; tail, slightly forked, of the same tint as the wings, and edged with light green; from the nostrils a line of white proceeds to and encircles the eye; lores, black; belly and vent, white; upper mandible, black; lower, light blue; legs and feet, light blue; eyes, hazel.

84. *VIREO GILVUS*, BONAPARTE. — *MUSCICAPA MELODIA*, WILSON.

WARBLING FLYCATCHER.

WILSON, PLATE XLII. FIG. II.

THIS sweet little warbler is for the first time described. In its general appearance it resembles the red-eyed flycatcher; but, on a close comparison, differs from that bird in many particulars. It arrives in Pennsylvania about the middle of April, and inhabits the thick foliage of orchards and high trees; its voice is soft, tender, and soothing, and its notes flow in an easy continued strain that is extremely pleasing. It is often heard among the weeping willows and Lombardy poplars of this city; is rarely observed in the woods; but seems particularly attached to the society of man. It gleams among the leaves, occasionally darting after winged insects, and searching for caterpillars; and seems by its manners to partake considerably of the nature of the genus *sylvia*. It is late in departing, and I have frequently heard its notes among the fading leaves of the poplar in October.

This little bird may be distinguished from all the rest of our songsters by the soft, tender, easy flow of its notes, while hid among the foliage. In these there is nothing harsh, sudden, or emphatical; they glide along in a kind of meandering strain, that is peculiarly its own. In May and June it may be generally heard in the orchards, the borders of the city, and around the farm house.

This species is five inches and a half long, and eight inches and a half in extent; bill, dull lead colour above, and notched near the point, lower, a pale flesh colour; eye, dark hazel; line over the eye, and whole lower parts, white, the latter tinged with very pale greenish yellow near the breast; upper parts, a pale green olive; wings, brown, broadly edged with pale olive green; tail, slightly forked, edged with olive; the legs and feet, pale lead; the head inclines a little to ash; no

white on the wings or tail. Male and female nearly alike.

85. *VIREO OLIVACEUS*, BONAPARTE. — *MUSCICAPA OLIVACEA*,
WILSON.

RED-EYED FLYCATCHER.

WILSON, PLATE XII. FIG. II.

THIS is a numerous species, though confined chiefly to the woods and forests, and, like all the rest of its tribe that visit Pennsylvania, is a bird of passage. It arrives here late in April; has a loud, lively, and energetic song, which it continues, as it hunts among the thick foliage, sometimes for an hour with little intermission. In the months of May, June, and to the middle of July, it is the most distinguishable of all the other warblers of the forest; and even in August, long after the rest have almost all become mute, the notes of the red-eyed flycatcher are frequently heard with unabated spirit. These notes are in short, emphatical bars, of two, three, or four syllables. In Jamaica, where this bird winters, and is probably also resident, it is called, as Sloane informs us, whip-tom-kelly, from an imagined resemblance of its notes to these words. And, indeed, on attentively listening for some time to this bird in his full ardour of song, it requires but little of imagination to fancy that you hear it pronounce these words, "tom kelly, whip-tom-kelly!" very distinctly. It inhabits from Georgia to the river St Lawrence, leaving Pennsylvania about the middle of September.

This bird builds, in the month of May, a small, neat, pensile nest, generally suspended between two twigs of a young dogwood or other small sapling. It is hung by the two upper edges, seldom at a greater height than four or five feet from the ground. It is formed of pieces of hornets' nests, some flax, fragments of withered leaves, slips of vine bark, bits of paper, all

glued together with the saliva of the bird, and the silk of caterpillars, so as to be very compact; the inside is lined with fine slips of grape vine bark, fibrous grass, and sometimes hair. These nests are so durable, that I have often known them to resist the action of the weather for a year; and, in one instance, I have found the nest of the yellow bird built in the cavity of one of those of the preceding year. The mice very often take possession of them after they are abandoned by the owners. The eggs are four, sometimes five, pure white, except near the great end, where they are marked with a few small dots of dark brown or reddish. They generally raise two brood in the season.

The red-eyed flycatcher is one of the adopted nurses of the cow bird, and a very favourite one, shewing all the symptoms of affection for the foundling, and as much solicitude for its safety, as if it were its own. A particular account of the history of that singular bird has already been given.

Before I take leave of this bird, it may not be amiss to observe that there is another, and a rather less species of flycatcher, somewhat resembling the red-eyed, which is frequently found in its company. Its eyes are hazel; its back more cinereous than the other, and it has a single light streak over the eye. The notes of this bird are low, somewhat plaintive, but warbled out with great sweetness; and form a striking contrast with those of the red-eyed flycatcher. I think it probable that Dr Barton had reference to this bird when he made the following remarks, (see his *Fragments of the Natural History of Pennsylvania*, page 19):—" *Muscicapa olivacea*.—I do not think with Mr Pennant that this is the same bird as the whip-tom-kelly of the West Indies. Our bird has no such note; but a great variety of soft, tender, and agreeable notes. It inhabits forests; and does not, like the West India bird, build a pendulous nest." Had the learned professor, however, examined into this matter with his usual accuracy, he would have found, that the *muscicapa olivacea*, and the soft and tender songster he mentions, are two very

distinct species; and that both the one and the other actually build very curious pendulous nests.

This species is five inches and a half long, and seven inches in extent; crown, ash, slightly tinged with olive, bordered on each side with a line of black, below which is a line of white passing from the nostril over and a little beyond the eye; the bill is longer than usual with birds of its tribe, the upper mandible overhanging the lower considerably, and notched, dusky above, and light blue below; all the rest of the plumage above is of a yellow olive, relieved on the tail and at the tips of the wings with brown; chin, throat, breast, and belly, pure white; inside of the wings and vent feathers, greenish yellow; the tail is very slightly forked; legs and feet, light blue; iris of the eye, red. The female is marked nearly in the same manner, and is distinguishable only by the greater obscurity of the colours.

86. *PIREO NOVEBORACENSIS*, BONAPARTE. — *MUSCICAPA CANTATRIX*, WILSON.

WHITE-EYED FLYCATCHER.

WILSON, PLATE XVIII. FIG. VI.

THIS is another of the cow bird's adopted nurses; a lively, active, and sociable little bird, possessing a strong voice for its size, and a great variety of notes; and singing, with little intermission, from its first arrival, about the middle of April, to a little before its departure in September. On the 27th of February, I heard this bird in the southern parts of the State of Georgia, in considerable numbers, singing with great vivacity. They had only arrived a few days before. Its arrival in Pennsylvania, after an interval of seven weeks, is a proof that our birds of passage, particularly the smaller species, do not migrate at once from south to north; but progress daily, keeping company, as it were, with the advances of spring. It has been observed in the neighbourhood of Savannah so late as

the middle of November; and probably winters in Mexico and the West Indies.

This bird builds a very neat little nest, often in the figure of an inverted cone; it is suspended by the upper edge of the two sides, on the circular bend of a prickly vine,—a species of smilax that generally grows in low thickets. Outwardly, it is constructed of various light materials, bits of rotten wood, fibres of dry stalks of weeds, pieces of paper, commonly newspapers, an article almost always found about its nest, so that some of my friends have given it the name of the *politician*; all these substances are interwoven with the silk of caterpillars, and the inside is lined with fine dry grass and hair. The female lays five eggs, pure white, marked near the great end with a very few small dots of deep black or purple. They generally raise two brood in a season. They seem particularly attached to thickets of this species of smilax, and make a great ado when any one comes near their nest; approaching within a few feet, looking down, and scolding with great vehemence. In Pennsylvania they are a numerous species.

The white-eyed flycatcher is five inches and a quarter long, and seven in extent; the upper parts are a fine yellow olive, those below, white, except the sides of the breast, and under the wings, which are yellow; line round the eye, and spot near the nostril, also rich yellow; wings, deep dusky black, edged with olive green, and crossed with two bars of pale yellow; tail, forked, brownish black, edged with green olive; bill, legs, and feet, light blue; the sides of the neck incline to a greyish ash. The female and young of the first season are scarcely distinguishable in plumage from the male.

GENUS XIX. — *LANIUS*, LINNÆUS.87. *LANIUS EXCUBITOR*, WILSON. — *LANIUS BOREALIS*, VIEILL.

AMERICAN SHRIKE, OR BUTCHER BIRD.

WILSON, PLATE V. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THE form and countenance of this bird bespeak him full of courage and energy ; and his true character does not belie his appearance, for he possesses these qualities in a very eminent degree.

This species is by no means numerous in the lower parts of Pennsylvania ; though most so during the months of November, December, and March. Soon after this, it retires to the north, and to the higher inland parts of the country to breed. It frequents the deepest forests ; builds a large and compact nest in the upright fork of a small tree ; composed outwardly of dry grass, and whitish moss, and warmly lined within with feathers. The female lays six eggs, of a pale cinereous colour, thickly marked at the greater end with spots and streaks of rufous. She sits fifteen days. The young are produced early in June, sometimes towards the latter end of May ; and during the greater part of the first season are of a brown ferruginous colour on the back.

When we compare the beak of this species with his legs and claws, they appear to belong to two very different orders of birds ; the former approaching in its conformation to that of the accipitrine ; the latter to those of the pies ; and, indeed, in his food and manners he is assimilated to both. For though man has arranged and subdivided this numerous class of animals into separate tribes and families, yet nature has united these to each other by such nice gradations, and so intimately, that it is hardly possible to determine where one tribe ends, or the succeeding commences. We therefore find several eminent naturalists classing this genus of birds with the accipitrine, others with the pies. Like the

former, he preys occasionally on other birds ; and, like the latter, on insects, particularly grasshoppers, which I believe to be his principal food ; having at almost all times, even in winter, found them in his stomach. In the month of December, and while the country was deeply covered with snow, I shot one of these birds near the head waters of the Mohawk river, in the State of New York, the stomach of which was entirely filled with large black spiders. He was of a much purer white, above, than any I have since met with ; though evidently of the same species with the present ; and I think it probable that the males become lighter coloured as they advance in age, till the minute transverse lines of brown on the lower parts almost disappear.

In his manners he has more resemblance to the pies than to birds of prey, particularly in the habit of carrying off his surplus food, as if to hoard it for future exigencies ; with this difference, that crows, jays, magpies, &c. conceal theirs at random, in holes and crevices, where, perhaps, it is forgotten, or never again found ; while the butcher-bird sticks his on thorns and bushes, where it shrivels in the sun, and soon becomes equally useless to the hoarder. Both retain the same habits in a state of confinement, whatever the food may be that is presented to them.

This habit of the shrike of seizing and impaling grasshoppers and other insects on thorns, has given rise to an opinion, that he places these carcasses there by way of baits, to allure small birds to them, while he himself lies in ambush to surprise and destroy them. In this, however, they appear to allow him a greater portion of reason and contrivance than he seems entitled to, or than other circumstances will altogether warrant ; for we find, that he not only serves grasshoppers in this manner, but even small birds themselves, as those have assured me who have kept them in cages in this country, and amused themselves with their manœuvres. If so, we might as well suppose the farmer to be inviting crows to his corn when he hangs up their carcasses

around it, as the butcher bird to be decoying small birds by a display of the dead bodies of their comrades!

In the *Transactions of the American Philosophical Society*, vol. iv, p. 124, the reader may find a long letter on this subject from John Heckewelder, of Bethlehem, to Dr Barton; the substance of which is as follows:—That on the 17th of December, 1795, he (Mr Heckewelder) went to visit a young orchard which had been planted a few weeks before, and was surprised to observe on every one of the trees one, and on some two and three grasshoppers, stuck down on the sharp thorny branches; that, on inquiring of his tenant the reason of this, he informed him, that they were stuck there by a small bird of prey, called, by the Germans, *Neuntoedter*, (nine killer,) which caught and stuck nine grasshoppers a-day; and he supposed, that as the bird itself never fed on grasshoppers, it must do it for pleasure. Mr Heckewelder now recollected, that one of those nine killers had, many years before, taken a favourite bird of his out of his cage at the window; since which, he had paid particular attention to it; and being perfectly satisfied that it lived entirely on mice and small birds, and, moreover, observing the grasshoppers on the trees all fixed in natural positions, as if alive, he began to conjecture that this was done to decoy such small birds as feed on these insects to the spot, that he might have an opportunity of devouring them. “If it were true,” says he, “that this little hawk had stuck them up for himself, how long would he be in feeding on one or two hundred grasshoppers? But if it be intended to seduce the smaller birds to feed on these insects, in order to have an opportunity of catching them, that number, or even one-half, or less, may be a good bait all winter,” &c.

This is, indeed, a very pretty fanciful theory, and would entitle our bird to the epithet *fowler*, perhaps with more propriety than *lanius*, or *butcher*; but, notwithstanding the attention which Mr Heckewelder professes to have paid to this bird, he appears not only

to have been unacquainted that grasshoppers were, in fact, the favourite food of this nine killer, but never once to have considered, that grasshoppers would be but a very insignificant and tasteless bait for our winter birds, which are chiefly those of the finch kind, that feed almost exclusively on hard seeds and gravel; and among whom five hundred grasshoppers might be stuck up on trees and bushes, and remain there untouched by any of them for ever. Besides, where is his necessity of having recourse to such refined stratagems, when he can, at any time, seize upon small birds by mere force of flight? I have seen him, in an open field, dart after one of our small sparrows with the rapidity of an arrow, and kill it almost instantly. Mr William Bartram long ago informed me, that one of these shrikes had the temerity to pursue a snow bird (*F. Hudsonica*) into an open cage, which stood in the garden; and, before they could arrive to its assistance, had already strangled and scalped it, though he lost his liberty by the exploit. In short, I am of opinion, that his resolution and activity, are amply sufficient to enable him to procure these small birds whenever he wants them, which, I believe, is never but when hard pressed by necessity, and a deficiency of his favourite insects; and that the crow or the blue jay may, with the same probability, be supposed to be laying baits for mice and flying squirrels, when they are hoarding their Indian corn, as he for birds, while thus disposing of the exuberance of his favourite food. Both the former and the latter retain the same habits in a state of confinement; the one filling every seam and chink of his cage with grain, crumbs of bread, &c., and the other sticking up, not only insects, but flesh, and the bodies of such birds as are thrown in to him, on nails or sharpened sticks fixed up for the purpose. Nor, say others, is this practice of the shrike difficult to be accounted for. Nature has given to this bird a strong, sharp, and, powerful beak, a broad head, and great strength in the muscles of his neck; but his legs, feet, and claws, are,

by no means, proportionably strong; and are unequal to the task of grasping and tearing his prey, like those of the owl and falcon kind. He, therefore, wisely avails himself of the powers of the former, both in strangling his prey, and in tearing it to pieces while feeding.

The character of the butcher bird is entitled to no common degree of respect. His activity is visible in all his motions; his courage and intrepidity beyond every other bird of his size, (one of his own tribe only excepted, *L. tyrannus*, or king bird;) and in affection for his young, he is surpassed by no other. He associates with them in the latter part of summer, the whole family hunting in company. He attacks the largest hawk or eagle in their defence, with a resolution truly astonishing; so that all of them respect him, and, on every occasion, decline the contest. As the snows of winter approach, he descends from the mountainous forests, and from the regions of the north, to the more cultivated parts of the country, hovering about our hedgerows, orchards, and meadows, and disappears again early in April.

The great American shrike is ten inches in length, and thirteen in extent; the upper part of the head, neck, and back, is pale cinereous; sides of the head, nearly white, crossed with a bar of black that passes from the nostril, through the eye, to the middle of the neck; the whole under parts, in some specimens, are nearly white, in others more dusky, and thickly marked with minute transverse curving lines of light brown; the wings are black, tipped with white, with a single spot of white on the primaries, just below their coverts; the scapulars, or long downy feathers that fall over the upper part of the wing, are pure white; the rump and tail-coverts, a very fine gray or light ash; the tail is cuneiform, consisting of twelve feathers, the two middle ones wholly black, the others tipped more and more with white to the exterior ones, which are nearly all white; the legs, feet, and claws, are black; the beak straight, thick, of a light blue colour, the upper mandible

furnished with a sharp process, bending down greatly at the point, where it is black, and beset at the base with a number of long black hairs or bristles; the nostrils are also thickly covered with recumbent hairs; the iris of the eye is a light hazel; pupil, black. The female is easily distinguished by being ferruginous on the back and head; and having the band of black extending only behind the eye, and of a dirty brown or burnt colour; the under parts are also something rufous, and the curving lines more strongly marked she is rather less than the male, which is different from birds of prey in general, the females of which are usually the larger of the two.

In the *Arctic Zoology*, we are told that this species is frequent in Russia, but does not extend to Siberia; yet one was taken within Behring's Straits, on the Asiatic side, in lat. 66°; and the species probably extends over the whole continent of North America, from the western ocean. Mr Bell, while on his travels through Russia, had one of these birds given him, which he kept in a room, having fixed up a sharpened stick for him in the wall; and on turning small birds loose in the room, the butcher bird instantly caught them by the throat in such a manner as soon to suffocate them; and then stuck them on the stick, pulling them on with bill and claws; and so served as many as were turned loose, one after another, on the same stick.*

88. *LANIUS CAROLINENSIS*, WILSON.

LANIUS LUDOVICIANUS, LINNÆUS. — LOGGERHEAD SHRIKE.

WILSON, PLATE XXII. FIG. V. — EDINBURGH COLLEGE MUSEUM.

THIS species has a considerable resemblance to the great American shrike. It differs, however, from that bird in size, being a full inch shorter; and in colour,

* EDWARDS, vol. vii. p. 231.

being much darker on the upper parts ; and in having the frontlet black. It also inhabits the warmer parts of the United States ; while the great American shrike is chiefly confined to the northern regions, and seldom extends to the south of Virginia.

This species inhabits the rice plantations of Carolina and Georgia, where it is protected for its usefulness in destroying mice. It sits, for hours together, on the fence, beside the stacks of rice, watching like a cat ; and as soon as it perceives a mouse, darts on it like a hawk. It also feeds on crickets and grasshoppers. Its note, in March, resembles the clear creaking of a sign-board in windy weather. It builds its nest, as I was informed, generally in a detached bush, much like that of the mocking bird ; but, as the spring was not then sufficiently advanced, I had no opportunity of seeing its eggs. It is generally known by the name of the loggerhead.

This species is nine inches long, and thirteen in extent ; the colour above is cinereous, or dark ash ; scapulars and line over the eye, whitish ; wings, black, with a small spot of white at the base of the primaries, and tipt with white ; a stripe of black passes along the front, through each eye, half way down the side of the neck ; eye, dark hazel, sunk below the eyebrow ; tail, cuneiform, the four middle feathers wholly black ; the four exterior ones, on each side, tipt more and more with white to the outer one, which is nearly all white ; whole lower parts, white ; and in some specimens, both of males and females, marked with transverse lines of very pale brown ; bill and legs, black.

The female is considerably darker both above and below, but the black does not reach so high on the front ; it is also rather less in size.

GENUS XX.—*TURDUS*, LINNÆUS.89. *TURDUS POLYGLOTTUS*, LINNÆUS AND WILSON.

MOCKING BIRD.

WILSON, PLATE X. FIG. I.—EDINBURGH COLLEGE MUSEUM.

THIS celebrated and very extraordinary bird, in extent and variety of vocal powers, stands unrivalled by the whole feathered songsters of this, or perhaps any other country; and shall receive from us, in this place, all that attention and respect which superior merit is justly entitled to.

Among the many novelties which the discovery of this part of the western continent first brought into notice, we may reckon that of the mocking bird; which is not only peculiar to the New World, but inhabits a very considerable extent of both North and South America; having been traced from the States of New England to Brazil; and also among many of the adjacent islands. They are, however, much more numerous in those States south, than in those north, of the river Delaware; being generally migratory in the latter, and resident (at least many of them) in the former. A warm climate, and low country, not far from the sea, seem most congenial to their nature; accordingly, we find the species less numerous to the west than east of the great range of the Alleghany, in the same parallels of latitude. In the severe winter of 1808–9, I found these birds, occasionally, from Fredericksburg, in Virginia, to the southern parts of Georgia; becoming still more numerous the farther I advanced to the south. The berries of the red cedar, myrtle, holly, Cassine shrub, many species of smilax, together with gum berries, gall berries, and a profusion of others with which the luxuriant swampy thickets of those regions abound, furnish them with a perpetual feast. Winged insects, also, of which they are very fond, and remarkably expert at catching, abound there even in winter, and are an additional inducement to residency. Though rather a shy bird in the Northern

States, here he appeared almost half domesticated, feeding on the cedars and among the thickets of smilax that lined the roads, while I passed within a few feet; playing around the planter's door, and hopping along the shingles. During the month of February, I sometimes heard a solitary one singing; but on the 2d of March, in the neighbourhood of Savannah, numbers of them were heard on every hand, vying in song with each other, and with the brown thrush, making the whole woods vocal with their melody. Spring was at that time considerably advanced; and the thermometer ranging between 70 and 78 degrees. On arriving at New York, on the 22d of the same month, I found many parts of the country still covered with snow, and the streets piled with ice to the height of two feet; while neither the brown thrush, nor mocking bird were observed, even in the lower parts of Pennsylvania, until the 20th of April.

The precise time at which the mocking bird begins to build his nest, varies according to the latitude in which he resides. In the lower parts of Georgia, he commences building early in April; but in Pennsylvania, rarely before the 10th of May; and in New York, and the States of New England, still later. There are particular situations to which he gives the preference. A solitary thorn bush; an almost impenetrable thicket; an orange tree, cedar, or holly bush, are favourite spots, and frequently selected. It is no great objection with him that these happen, sometimes, to be near the farm, or mansion-house: always ready to defend, but never over anxious to conceal, his nest, he very often builds within a small distance of the house; and not unfrequently in a pear or apple tree; rarely at a greater height than six or seven feet from the ground. The nest varies a little with different individuals, according to the conveniency of collecting suitable materials. A very complete one is now lying before me, and is composed of the following substances. First, a quantity of dry twigs and sticks, then withered tops of weeds, of the preceding year, intermixed with

fine straws, hay, pieces of wool and tow ; and, lastly, a thick layer of fine fibrous roots, of a light brown colour, lines the whole. The eggs are four, sometimes five, of a cinereous blue, marked with large blotches of brown. The female sits fourteen days ; and generally produces two brood in the season, unless robbed of her eggs, in which case she will even build and lay the third time. She is, however, extremely jealous of her nest, and very apt to forsake it if much disturbed. It is even asserted by some of our bird dealers, that the old ones will actually destroy the eggs, and poison the young, if either the one or the other have been handled. But I cannot give credit to this unnatural report. I know, from my own experience, at least, that it is not always their practice ; neither have I ever witnessed a case of the kind above mentioned. During the period of incubation, neither cat, dog, animal, or man, can approach the nest without being attacked. The cats, in particular, are persecuted whenever they make their appearance, till obliged to retreat. But his whole vengeance is most particularly directed against that mortal enemy of his eggs and young, the black snake. Whenever the insidious approaches of this reptile are discovered, the male darts upon it with the rapidity of an arrow, dexterously eluding its bite, and striking it violently and incessantly about the head, where it is very vulnerable. The snake soon becomes sensible of its danger, and seeks to escape ; but the intrepid defender of his young redoubles his exertions, and, unless his antagonist be of great magnitude, often succeeds in destroying him. All its pretended powers of fascination avail it nothing against the vengeance of this noble bird. As the snake's strength begins to flag, the mocking bird seizes and lifts it up, partly, from the ground, beating it with his wings ; and, when the business is completed, he returns to the repository of his young, mounts the summit of the bush, and pours out a torrent of song in token of victory.

As it is of some consequence to be able to distinguish a young male bird from a female, the following marks

may be attended to ; by which some pretend to be able to distinguish them in less than a week after they are hatched. These are, the breadth and purity of the white on the wings, for that on the tail is not so much to be depended on. This white, in a full grown male bird, spreads over the whole nine primaries, down to, and considerably below, their coverts, which are also white, sometimes slightly tipped with brown. The white of the primaries also extends equally far on both vanes of the feathers. In the female, the white is less pure, spreads over only seven or eight of the primaries, does not descend so far, and extends considerably farther down on the broad, than on the narrow side of the feathers. The black is also more of a brownish cast.

The young birds, if intended for the cage, ought not to be left till they are nearly ready to fly ; but should be taken rather young than otherwise ; and may be fed, every half hour, with milk, thickened with Indian meal ; mixing occasionally with it a little fresh meat, cut or minced very fine. After they begin to eat of their own accord, they ought still to be fed by hand, though at longer intervals, and a few cherries, strawberries, &c. now and then thrown in to them. The same sort of food, adding grasshoppers and fruit, particularly the various kinds of berries in which they delight ; and plenty of clear, fine gravel, is found very proper for them after they are grown up. Should the bird at any time appear sick or dejected, a few spiders thrown in to him will generally remove these symptoms of disease.

If the young bird is designed to be taught by an old one, the best singer should be selected for this office, and no other allowed to be beside him. Or, if by the bird organ, or mouth-whistling, it should be begun early, and continued, pretty constantly, by the same person, until the scholar, who is seldom inattentive, has completely acquired his lesson. The best singing birds, however, in my own opinion, are those that have been reared in the country, and educated under the

tuition of the feathered choristers of the surrounding fields, groves, woods, and meadows.

The plumage of the mocking bird, though none of the homeliest, has nothing gaudy or brilliant in it; and, had he nothing else to recommend him, would scarcely entitle him to notice; but his figure is well proportioned, and even handsome. The ease, elegance, and rapidity of his movements, the animation of his eye, and the intelligence he displays in listening and laying up lessons from almost every species of the feathered creation within his hearing, are really surprising, and mark the peculiarity of his genius. To these qualities we may add that of a voice full, strong, and musical, and capable of almost every modulation, from the clear mellow tones of the wood thrush, to the savage scream of the bald eagle. In measure and accent, he faithfully follows his originals. In force and sweetness of expression, he greatly improves upon them. In his native groves, mounted on the top of a tall bush, or half-grown tree, in the dawn of dewy morning, while the woods are already vocal with a multitude of warblers, his admirable song rises pre-eminent over every competitor. The ear can listen to *his* music alone, to which that of all the others seems a mere accompaniment. Neither is this strain altogether imitative. His own native notes, which are easily distinguishable by such as are well acquainted with those of our various song birds, are bold and full, and varied seemingly beyond all limits. They consist of short expressions of two, three, or, at the most, five or six syllables; generally interspersed with imitations, and all of them uttered with great emphasis and rapidity; and continued, with undiminished ardour, for half an hour, or an hour, at a time. His expanded wings and tail, glistening with white, and the buoyant gaiety of his action, arresting the eye, as his song most irresistibly does the ear, he sweeps round with enthusiastic ecstasy—he mounts and descends as his song swells or dies away; and, as my friend Mr Bartram has beautifully expressed it,

"He bounds aloft with the celerity of an arrow, as if to recover or recall his very soul, expired in the last elevated strain."* While thus exerting himself, a bystander destitute of sight would suppose that the whole feathered tribes had assembled together, on a trial of skill; each striving to produce his utmost effect; so perfect are his imitations. He many times deceives the sportsman, and sends him in search of birds that perhaps are not within miles of him; but whose notes he exactly imitates: even birds themselves are frequently imposed on by this admiral mimic, and are decoyed by the fancied calls of their mates; or dive, with precipitation, into the depth of thickets, at the scream of what they suppose to be the sparrow hawk.

The mocking bird loses little of the power and energy of his song by confinement. In his domesticated state, when he commences his career of song, it is impossible to stand by uninterested. He whistles for the dog; Caesar starts up, wags his tail, and runs to meet his master. He squeaks out like a hurt chicken, and the hen hurries about with hanging wings, and bristled feathers, clucking to protect its injured brood. The barking of the dog, the mewing of the cat, the creaking of a passing wheelbarrow, follow, with great truth and rapidity. He repeats the tune taught him by his master, though of considerable length, fully and faithfully. He runs over the quiverings of the canary, and the clear whistlings of the Virginia nightingale, or red bird, with such superior execution and effect, that the mortified songsters feel their own inferiority, and become altogether silent; while he seems to triumph in their defeat by redoubling his exertions.

This excessive fondness for variety, however, in the opinion of some, injures his song. His elevated imitations of the brown thrush are frequently interrupted by the crowing of cocks; and the warblings of the blue-bird, which he exquisitely manages, are mingled with the

* *Travels*, p. 32. *Introduction*.

screaming of swallows, or the cackling of hens ; amidst the simple melody of the robin, we are suddenly surprised by the shrill reiterations of the whip-poor-will ; while the notes of the killdeer, blue jay, martin, baltimore, and twenty others, succeed, with such imposing reality, that we look round for the originals, and discover, with astonishment, that the sole performer in this singular concert is the admirable bird now before us. During this exhibition of his powers, he spreads his wings, expands his tail, and throws himself around the cage in all the ecstasy of enthusiasm, seeming not only to sing, but to dance, keeping time to the measure of his own music. Both in his native and domesticated state, during the solemn stillness of night, as soon as the moon rises in silent majesty, he begins his delightful solo ; and serenades us the livelong night with a full display of his vocal powers, making the whole neighbourhood ring with his inimitable medley.*

Were it not to seem invidious in the eyes of foreigners, I might, in this place, make a comparative statement between the powers of the mocking bird, and the only bird, I believe, in the world, worthy of being compared with him, — the European nightingale. This, however, I am unable to do from my own observation, having never myself heard the song of the latter ; and, even if I had, perhaps something might be laid to the score of

* The hunters in the southern States, when setting out on an excursion by night, as soon as they hear the mocking bird begin to sing, know that the moon is rising.

A certain anonymous author, speaking of the mocking birds in the Island of Jamaica, and their practice of singing by moonlight, thus gravely philosophizes, and attempts to account for the habit. " It is not certain," says he, " whether they are kept so wakeful by the clearness of the light, or by any extraordinary attention and vigilance, at such times, for the protection of their nursery from the piratical assaults of the owl and the night hawk. It is possible that fear may operate upon them, much in the same manner as it has been observed to affect some cowardly persons, who whistle stoutly in a lonesome place, while their mind is agitated with the terror of thieves or hobgoblins." — *History of Jamaica*, vol. iii, p. 894, quarto.

partiality, which, as a faithful biographer, I am anxious to avoid. I shall, therefore, present the reader with the opinion of a distinguished English naturalist, and curious observer, on this subject, the Honourable Daines Barrington, who, at the time he made the communication, was vice-president of the Royal Society, to which it was addressed.*

“It may not be improper here,” says this gentleman, “to consider whether the nightingale may not have a very formidable competitor in the American mocking bird, though almost all travellers agree, that the concert in the European woods is superior to that of the other parts of the globe.” “I have happened, however, to hear the American mocking bird, in great perfection, at Messrs Vogels and Scotts, in Love Lane, Eastcheap. This bird is believed to be still living, and hath been in England these six years. During the space of a minute, he imitated the woodlark, chaffinch, blackbird, thrush, and sparrow; I was told also that he would bark like a dog; so that the bird seems to have no choice in his imitations, though his pipe comes nearest to our nightingale of any bird I have yet met with. With regard to the original notes, however, of this bird, we are still at a loss, as this can only be known by those who are accurately acquainted with the song of the other American birds. Kalm indeed informs us, that the natural song is excellent;† but this traveller seems not to have been long enough in America to have distinguished what were the genuine notes: with us, mimics do not often succeed but in imitations. I have little doubt, however, but that this bird would be fully equal to the song of the nightingale in its whole compass; but then, from the attention which the mocker pays to any other sort of disagreeable noise, these capital notes would be always debased by a bad mixture.”

On this extract I shall make a few remarks. If, as is here conceded, the mocking bird be fully equal to

* *Philosophical Transactions*, vol. lxii, part ii, p. 284.

† *Travels*, vol. i, p. 219.

the song of the nightingale, and, as I can with confidence add, not only to that, but to the song of almost every other bird, besides being capable of exactly imitating various other sounds and voices of animals,—his vocal powers are unquestionably superior to those of the nightingale, which possesses its own native notes alone. Farther, if we consider, as is asserted by Mr Barrington, that “one reason of the nightingale’s being more attended to than others is, that it sings in the night;” and if we believe with Shakespeare, that

The nightingale, if she should sing by day
When every goose is cackling, would be thought
No better a musician than a wren,

what must we think of that bird, who, in the glare of day, when a multitude of songsters are straining their throats in melody, overpowers all competition, and, by the superiority of his voice, expression, and action, not only attracts every ear, but frequently strikes dumb his mortified rivals; when the silence of night, as well as the bustle of day, bear witness to his melody; and when even in captivity, in a foreign country, he is declared, by the best judges in that country, to be fully equal to the song of their sweetest bird *in its whole compass*? The supposed degradation of his song by the introduction of extraneous sounds, and unexpected imitations, is, in fact, one of the chief excellencies of this bird; as these changes give a perpetual novelty to his strain, keep attention constantly awake, and impress every hearer with a deeper interest in what is to follow. In short, if we believe in the truth of that mathematical axiom, that the whole is greater than a part, all that is excellent or delightful, amusing or striking, in the music of birds, must belong to that admirable songster, whose vocal powers are equal to the whole compass of their whole strains.

The native notes of the mocking bird have a considerable resemblance to those of the brown thrush, but may easily be distinguished, by their greater rapidity, sweetness, energy of expression, and variety. Both, however, have, in many parts of the United States, particularly

in those to the south, obtained the name of mocking bird; the first, or brown thrush, from its inferiority of song, being called the French, and the other the English mocking bird,—a mode of expression probably originating in the prejudices of our forefathers, with whom every thing French was inferior to every thing English.*

The mocking bird is frequently taken in trap cages, and, by proper management, may be made sufficiently tame to sing. The upper parts of the cage (which ought to be of wood) should be kept covered, until the bird becomes a little more reconciled to confinement. If placed in a wire cage, uncovered, he will soon destroy himself in attempting to get out. These birds, however, by proper treatment, may be brought to sing perhaps superior to those raised by hand, and cost less trouble. The opinion which the naturalists of Europe entertain of the great difficulty of raising the mocking bird, and, that not one in ten survives, is very incorrect. A person called on me a few days ago, with twenty-nine of these birds, old and young, which he had carried about the fields with him for several days, for the convenience of feeding them while engaged in trapping others. He had carried them thirty miles, and intended carrying them ninety-six miles farther, viz. to New York; and told me, that he did not expect to lose one out of ten of them. Cleanliness, and regularity in feeding, are the two principal things to be attended to; and these rarely fail to succeed.

The eagerness with which the nest of the mocking bird is sought after in the neighbourhood of Philadelphia, has rendered this bird extremely scarce for an extent of several miles round the city. In the country round Wilmington and Newcastle, they are very numerous, from whence they are frequently brought here for

* The observations of Mr Barrington, in the paper above referred to, make this supposition still more probable. "Some nightingales," says he, "are so vastly inferior, that the bird-catchers will not keep them, branding them with the name of Frenchmen." p. 283.

sale. The usual price of a singing bird is from seven to fifteen, and even twenty dollars. I have known fifty dollars paid for a remarkable fine singer; and one instance where one hundred dollars were refused for a still more extraordinary one.

Attempts have been made to induce these charming birds to pair, and rear their young in a state of confinement, and the result has been such as to prove it, by proper management, perfectly practicable. In the spring of 1808, a Mr Klein, living in North Seventh Street, Philadelphia, partitioned off about twelve feet square in the third story of his house. This was lighted by a pretty large wire-grated window. In the centre of this small room he planted a cedar bush, five or six feet high, in a box of earth, and scattered about a sufficient quantity of materials suitable for building. Into this place a male and female mocking bird were put, and soon began to build. The female laid five eggs, all of which she hatched, and fed the young with great affection until they were nearly able to fly. Business calling the proprietor from home for two weeks, he left the birds to the care of his domestics; and, on his return, found, to his great regret, that they had been neglected in food. The young ones were all dead, and the parents themselves nearly famished. The same pair have again commenced building this season, in the same place, and have at this time, July 4, 1809, three young, likely to do well. The place might be fitted up with various kinds of shrubbery, so as to resemble their native thickets; and ought to be as remote from noise and interruption of company as possible, and strangers rarely allowed to disturb, or even approach them.

The mocking bird is nine and a half inches long, and thirteen in breadth. Some individuals are, however, larger, and some smaller, those of the first hatch being uniformly the biggest and stoutest.* The upper parts

* Many people are of opinion that there are two sorts, the large and the small mocking bird; but, after examining great numbers of these birds in various regions of the United States, I am satisfied that this variation of size is merely accidental, or owing to the circumstance above mentioned.

of the head, neck, and back, are a dark, brownish ash, and when new moulted, a fine light gray; the wings and tail are nearly black, the first and second rows of coverts tipped with white; the primary coverts, in some males, are wholly white, in others, tinged with brown. The three first primaries are white from their roots as far as their coverts; the white on the next six extends from an inch to one and three-fourths farther down, descending equally on both sides of the feather; the tail is cuneiform, the two exterior feathers wholly white, the rest, except the middle ones, tipped with white; the chin is white; sides of the neck, breast, belly, and vent, a brownish white, much purer in wild birds than in those that have been domesticated; iris of the eye, yellowish cream coloured, inclining to golden; bill, black, the base of the lower mandible, whitish; legs and feet, black, and strong. The female very much resembles the male; what difference there is, has been already pointed out in a preceding part of this account. The breast of the young bird is spotted like that of the thrush.

Mr William Bartram observes of the mocking bird, that "formerly, say thirty or forty years ago, they were numerous, and often staid all winter with us, or the year through, feeding on the berries of ivy, smilax, grapes, persimmons, and other berries. The ivy (*hedera helix*) they were particularly fond of, though a native of Europe. We have an ancient plant adhering to the wall of the house, covering many yards of surface; this vine is very fruitful, and here many would feed and lodge during the winter, and, in very severe cold weather, sit on the top of the chimney to warm themselves." He also adds, "I have observed that the mocking bird ejects from his stomach through his mouth the hard kernels of berries, such as smilax, grapes, &c. retaining the pulpy part."*

* Letter from Mr Bartram to the author.

90. *TURDUS LIVIDUS*, WILSON. — *T. FELIFOX*, VIEILL.

CAT BIRD.

WILSON, PLATE XIV. FIG. III.

WE have here a very common and very numerous species, in this part of the United States; and one as well known to all classes of people, as his favourite briers, or blackberry bushes. In spring or summer, on approaching thickets of brambles, the first salutation you receive is from the cat bird; and a stranger, unacquainted with its note, would instantly conclude that some vagrant orphan kitten had got bewildered among the briers, and wanted assistance; so exactly does the call of the bird resemble the voice of that animal. Unsuspicious, and extremely familiar, he seems less apprehensive of man than almost any other of our summer visitants; for whether in the woods, or in the garden, where he frequently builds his nest, he seldom allows you to pass without approaching to pay his respects, in his usual way. This humble familiarity and deference, from a stranger, too, who comes to rear his young, and spend the summer with us, ought to entitle him to a full share of our hospitality. Sorry I am, however, to say, that this, in too many instances, is cruelly the reverse. Of this I will speak more particularly in the sequel.

About the 28th of February, the cat bird first arrives in the lower parts of Georgia from the south, consequently winters not far distant, probably in Florida. On the second week in April, he usually reaches this part of Pennsylvania; and about the beginning of May, has already succeeded in building his nest. The place chosen for this purpose is generally a thicket of briers or brambles, a thorn bush, thick vine, or the fork of a small sapling; no great solicitude is shewn for concealment, though few birds appear more interested for the safety of their nest and young. The materials are dry

leaves and weeds, small twigs, and fine dry grass; the inside is lined with the fine black fibrous roots of some plant. The female lays four, sometimes five eggs, of a uniform greenish blue colour, without any spots. They generally raise two, and sometimes three brood in a season.

In passing through the woods in summer, I have sometimes amused myself with imitating the violent chirping or squeaking of young birds, in order to observe what different species were around me,—for such sounds, at such a season, in the woods, are no less alarming to the feathered tenants of the bushes, than the cry of fire or murder in the streets is to the inhabitants of a large and populous city. On such occasions of alarm and consternation, the cat bird is the first to make his appearance, not singly, but sometimes half a dozen at a time, flying from different quarters to the spot. At this time, those who are disposed to play with his feelings may almost throw him into fits, his emotion and agitation are so great, at the distressful cries of what he supposes to be his suffering young. Other birds are variously affected; but none shew symptoms of such extreme suffering. He hurries backwards and forwards, with hanging wings and open mouth, calling out louder and faster, and actually screaming with distress, till he appears hoarse with his exertions. He attempts no offensive means; but he bewails—he implores—in the most pathetic terms with which nature has supplied him, and with an agony of feeling which is truly affecting. Every feathered neighbour within hearing hastens to the place, to learn the cause of the alarm, peeping about with looks of consternation and sympathy. But their own powerful parental duties and domestic concerns soon oblige each to withdraw. At any other season, the most perfect imitations have no effect whatever on him.

The cat bird will not easily desert its nest. I took two eggs from one which was sitting, and in their place put two of the brown thrush, or thrasher, and took my stand at a convenient distance, to see how she would

behave. In a minute or two, the male made his approaches, stooped down, and looked earnestly at the strange eggs, then flew off to his mate, who was not far distant, with whom he seemed to have some conversation, and instantly returning, with the greatest gentleness took out both the thrasher's eggs, first one and then the other, carried them singly about thirty yards, and dropt them among the bushes. I then returned the two eggs I had taken, and, soon after, the female resumed her place on the nest as before.

From the nest of another cat bird I took two half fledged young, and placed them in that of another, which was sitting on five eggs. She soon turned them both out. The place where the nest was not being far from the ground, they were little injured, and the male, observing their helpless situation, began to feed them with great assiduity and tenderness.

I removed the nest of a cat bird, which contained four eggs, nearly hatched, from a fox grape vine, and fixed it firmly and carefully in a thicket of briars close by, without injuring its contents. In less than half an hour I returned, and found it again occupied by the female.

The cat bird is one of our earliest morning songsters, beginning generally before break of day, and hovering from bush to bush, with great sprightliness, when there is scarce light sufficient to distinguish him. His notes are more remarkable for singularity than for melody. They consist of short imitations of other birds, and other sounds; but, his pipe being rather deficient in clearness and strength of tone, his imitations fail where these are requisite. Yet he is not easily discouraged, but seems to study certain passages with great perseverance; uttering them at first low, and, as he succeeds, higher and more free, nowise embarrassed by the presence of a spectator even within a few yards of him. On attentively listening for some time to him, one can perceive considerable variety in his performance, in which he seems to introduce all the odd sounds and quaint passages he has been able to collect. Upon the

whole; though we cannot arrange him with the grand leaders of our vernal choristers, he well merits a place among the most agreeable *general* performers.

This bird, as has been before observed, is very numerous in summer, in the middle States. Scarcely a thicket in the country is without its cat birds; and, were they to fly in flocks, like many other birds, they would darken the air with their numbers. But their migrations are seldom observed, owing to their gradual progress and recession, in spring and autumn, to and from their breeding places. They enter Georgia late in February, and reach New England about the beginning of May. In their migrations, they keep pace with the progress of agriculture; and the first settlers in many parts of the Genesee country, have told me, that it was several years, after they removed there, before the cat bird made his appearance among them. With all these amiable qualities to recommend him, few people in the country respect the cat bird; on the contrary, it is generally the object of dislike; and the boys of the United States entertain the same prejudice and contempt for this bird, its nest and young, as those of Britain do for the yellowhammer, and its nest, eggs, and young. I am at a loss to account for this cruel prejudice. Even those by whom it is entertained, can scarcely tell you why; only they "hate cat birds;" as some persons tell you they hate Frenchmen, they hate Dutchmen, &c; expressions that bespeak their own narrowness of understanding, and want of liberality. Yet, after ruminating over in my own mind all the probable causes, I think I have at last hit on some of them; the principal of which seems to me to be a certain similarity of taste, and clashing of interest, between the cat bird and the farmer. The cat bird is fond of large ripe garden strawberries; so is the farmer, for the good price they bring in market: the cat bird loves the best and richest early cherries; so does the farmer, for they are sometimes the most profitable of his early fruit: the cat bird has a particular partiality for the finest ripe mellow pears; and these are also

particular favourites with the farmer. But the cat bird has frequently the advantage of the farmer, by snatching off the first fruits of these delicious productions; and the farmer takes revenge, by shooting him down with his gun, as he finds old hats, windmills, and scarecrows, are no impediment in his way to these forbidden fruits; and nothing but this resource—the ultimatum of farmers as well as kings—can restrain his visits. The boys are now set to watch the cherry trees with the gun; and thus commences a train of prejudices and antipathies, that commonly continue through life. Perhaps, too, the common note of the cat bird, so like the mewing of the animal whose name it bears, and who itself sustains no small share of prejudice, the homeliness of his plumage, and even his familiarity, so proverbially known to beget contempt, may also contribute to this mean, illiberal, and persecuting prejudice; but, with the generous and the good, the lovers of nature and of rural charms, the confidence which this familiar bird places in man by building in his garden, under his eye, the music of his song, and the interesting playfulness of his manners, will always be more than a recompense for all the little stolen morsels he snatches.

The cat bird measures nine inches in length; at a small distance he appears nearly black; but, on a closer examination, is of a deep slate colour above, lightest on the edges of the primaries, and of a considerably lighter slate colour below, except the under tail-coverts, which are very dark red; the tail, which is rounded, and upper part of the head, as well as the legs and bill, are black. The female differs little in colour from the male. Latham takes notice of a bird exactly resembling this, being found at Kamtschatka, only it wanted the red under the tail; probably it might have been a young bird, in which the red is scarcely observable.

This bird has been very improperly classed among the flycatchers. As he never seizes his prey on wing, has none of their manners, feeds principally on fruit, and seems to differ so little from the thrushes, I think he more properly belongs to the latter tribe, than to

any other genus we have. His bill, legs and feet, place, and mode of building, the colour of the eggs, his imitative notes, food, and general manners, all justify me in removing him to this genus.

The cat bird is one of those unfortunate victims, and indeed the principal, against which credulity and ignorance have so often directed the fascinating quality of the black snake. A multitude of marvellous stories have been told me by people who have themselves seen the poor cat birds drawn, or sucked, as they sometimes express it, from the tops of the trees (which, by the bye, the cat bird rarely visits,) one by one, into the yawning mouth of the immovable snake. It has so happened with me, that, in all the adventures of this kind that I have personally witnessed, the cat bird was actually the assailant, and always the successful one. These rencounters never take place but during the breeding time of birds; for whose eggs and young the snake has a particular partiality. It is no wonder that those species, whose nests are usually built near the ground, should be the greatest sufferers, and the most solicitous for their safety: hence the cause why the cat bird makes such a distinguished figure in most of these marvellous narrations. That a poisonous snake will strike a bird or mouse, and allow it to remain till nearly expiring before he begins to devour it, our observations on the living rattlesnake, at present [1811,] kept by Mr Peale, satisfy us is a fact; but that the same snake, with eyes, breath, or any other known quality he possesses, should be capable of drawing a bird, reluctantly, from the tree tops to its mouth, is an absurdity too great for me to swallow.

I am led to these observations by a note which I received this morning from my worthy friend Mr Bartram: "Yesterday," says this gentleman, "I observed a conflict, or contest, between a cat bird and a snake. It took place in a gravel walk, in the garden, near a dry wall of stone. I was within a few yards of the combatants. The bird pounced or darted upon the

snake, snapping his bill; the snake would then draw himself quickly into a coil, ready for a blow; but the bird would cautiously circumvent him at a little distance, now and then running up to, and snapping at him; but keeping at a sufficient distance to avoid a blow. After some minutes, it became a running fight, the snake retreating; and, at last, he took shelter in the wall. The cat bird had young ones in the bushes near the field of battle.

“ This may shew the possibility of poisonous snakes biting birds; the operation of the poison causing them to become, as it were, fascinated.”

91. *TURDUS MELODUS*, WILSON. — *T. MUSTELINUS*, GMELIN.

WOOD THRUSH.

WILSON, PLATE II. FIG. I.

THIS bird measures eight inches in length, and thirteen from tip to tip of the expanded wings; the bill is an inch long, the upper mandible, of a dusky brown, bent at the point, and slightly notched; the lower, a flesh colour towards the base; the legs are long, and, as well as the claws, of a pale flesh colour, or almost transparent. The whole upper parts are of a brown fulvous colour, brightening into reddish on the head, and inclining to an olive on the rump and tail; chin, white; throat and breast, white, tinged with a light buff colour, and beautifully marked with pointed spots of black or dusky, running in chains from the sides of the mouth, and intersecting each other all over the breast to the belly, which, with the vent, is of a pure white; a narrow circle of white surrounds the eye, which is large, full, the pupil black, and the iris of a dark chocolate colour; the inside of the mouth is yellow. The male and female of this species, as, indeed, of almost the whole genus of thrushes, differ so little as scarcely to be distinguished from each other. It is called by some the wood robin, by others the ground

robin, and by ornithologists, in general, the little thrush, though we have several thrushes larger, and a number smaller. *Turdus minor* appears, therefore, not altogether a suitable appellation: the present name has been adopted from Mr William Bartram, who seems to have been the first and almost only naturalist who has taken notice of the merits of this bird.

This sweet and solitary songster inhabits the whole of North America, from Hudson's Bay to the peninsula of Florida. He arrives in Pennsylvania about the 20th of April, or soon after, and returns to the south about the beginning of October. The lateness or earliness of the season seems to make less difference in the times of arrival of our birds of passage than is generally imagined. Early in April the woods are often in considerable forwardness, and scarce a summer bird to be seen. On the other hand, vegetation is sometimes no farther advanced on the 20th of April, at which time (*e. g.* this present year, 1807) numbers of wood thrushes are seen flitting through the moist woody hollows; and a variety of the *motacilla* genus chattering from almost every bush, with scarce an expanded leaf to conceal them. But at whatever time the wood thrush may arrive, he soon announces his presence in the woods. With the dawn of the succeeding morning, mounting to the top of some tall tree that rises from a low thick shaded part of the woods, he pipes his few, but clear and musical notes, in a kind of ecstasy; the prelude, or symphony to which, strongly resembles the double-tonguing of a German flute, and sometimes the tinkling of a small bell; the whole song consists of five or six parts, the last note of each of which is in such a tone as to leave the conclusion evidently suspended; the finalé is finely managed, and with such charming effect as to soothe and tranquillize the mind, and to seem sweeter and mellower at each successive repetition. Rival songsters, of the same species, challenge each other from different parts of the wood, seeming to vie for softer tones and more exquisite responses. During the burning heat of the day, they are comparatively mute;

but in the evening the same melody is renewed, and continued long after sunset. Those who visit our woods, or ride out into the country at these hours, during the months of May and June, will be at no loss to recognize, from the above description, this pleasing musician. Even in dark, wet, and gloomy weather, when scarce a single chirp is heard from any other bird, the clear notes of the wood thrush thrill through the dropping woods, from morning to night; and it may truly be said, that the sadder the day the sweeter is his song.

The favourite haunts of the wood thrush are low, thick shaded hollows, through which a small brook or rill meanders, overhung with alder bushes, that are mantled with wild vines. Near such a scene he generally builds his nest, in a laurel or alder bush. Outwardly it is composed of withered beech leaves of the preceding year, laid at bottom in considerable quantities, no doubt to prevent damp and moisture from ascending through, being generally built in low, wet situations; above these are layers of knotty stalks of withered grass, mixed with mud, and smoothly plastered, above which is laid a slight lining of fine black fibrous roots of plants. The eggs are four, sometimes five, of a uniform light blue, without any spots.

The wood thrush appears always singly or in pairs, and is of a shy, retired, unobtrusive disposition. With the modesty of true merit, he charms you with his song, but is content, and even solicitous, to be concealed. He delights to trace the irregular windings of the brook, where, by the luxuriance of foliage, the sun is completely shut out, or only plays in a few interrupted beams on the glittering surface of the water. He is also fond of a particular species of lichen which grows in such situations, and which, towards the fall, I have uniformly found in their stomachs; berries, however, of various kinds, are his principal food, as well as beetles and caterpillars. The feathers on the hind head are longer than is usual with birds which have no crest; these he sometimes erects; but this

particular cannot be observed but on a close examination.

Those who have paid minute attention to the singing of birds, know well, that the voice, energy, and expression, in the same tribe, differ as widely as the voices of different individuals of the human species, or as one singer does from another. The powers of song, in some individuals of the wood thrush, have often surprised and delighted me. Of these I remember one, many years ago, whose notes I could instantly recognise on entering the woods, and with whom I had been, as it were, acquainted from his first arrival. The top of a large white oak that overhung part of the glen, was usually the favourite pinnacle from whence he poured the sweetest melody; to which I had frequently listened till night began to gather in the woods, and the fire-flies to sparkle among the branches. But, alas! in the pathetic language of the poet—

One morn I miss'd him on the accustom'd hill,
Along the vale, and on his favourite tree—
Another came, nor yet beside the rill,
Nor up the glen, nor in the wood was he.

A few days afterwards, passing along the edge of the rocks, I found fragments of the wings and broken feathers of a wood thrush killed by the hawk, which I contemplated with unfeigned regret, and not without a determination to retaliate on the first of these murderers I could meet with.

That I may not seem singular in my estimation of this bird, I shall subjoin an extract of a letter from a distinguished American gentleman to whom I had sent some drawings, and whose name, were I at liberty to give it, would do honour to my humble performance, and render any farther observations on the subject from me unnecessary.

“As you are curious in birds, there is one well worthy your attention, to be found, or rather heard, in every part of America, and yet scarcely ever to be seen. It is in all the forests from spring to fall, and never but on the tops of the tallest trees, from which it

perpetually serenades us with some of the sweetest notes, and as clear as those of the nightingale. I have followed it for miles, without ever but once getting a good view of it. It is of the size and make of the mocking bird, lightly thrush coloured on the back, and a greyish white on the breast and belly. Mr ———, my son-in-law, was in possession of one, which had been shot by a neighbour; he pronounced it a *muscipapa*, and I think it much resembles the *Mouche rolle de la Martinique*, 8 Buffon, 374, *pl. enlum.* 568. As it abounds in all the neighbourhood of Philadelphia, you may, perhaps, by patience and perseverance, (of which much will be requisite,) get a sight, if not a possession, of it. I have, for twenty years, interested the young sportsmen of my neighbourhood to shoot me one, but, as yet, without success."

It may seem strange that neither Sloane,* Catesby, Edwards, nor Buffon, all of whom are said to have described this bird, should say any thing of its melody; or rather, assert that it had only a single cry or scream. This I cannot account for in any other way than by supposing, what I think highly probable, that this bird has never been figured or described by any of the above authors.

Catesby has, indeed, represented a bird, which he calls *turdus minimus*,† but it is difficult to discover, either from the figure or description, what particular species is meant; or whether it be really intended for the wood thrush we are now describing. It resembles, he says, the English thrush; but is less, never sings, has only a single note, and abides all the year in Carolina. It must be confessed, that, except the first circumstance, there are few features of the wood thrush in this description. Though it is believed that some of our birds of passage, and, among them, the present species, winter in the Carolinas, yet they rarely breed there; and when they do, they are certainly vocal. If Mr Catesby, therefore, found the bird mute during spring and summer, it was not the wood thrush, other-

* *Hist. Jam.* ii, 305.

† CATESBY'S *Nat. Hist. Car.* i, 31.

wise he must have changed his very nature. But Mr Edwards has also described and delineated the little thrush,* and has referred to Catesby as having drawn and engraved it before. Now this thrush of Edwards I know to be really a different species; one not resident in Pennsylvania, but passing to the north in May, and returning the same way in October, and may be distinguished from the true song thrush (*turdus melodus*) by the spots being much broader, and not descending so far below the breast. It is also an inch shorter, with the cheeks of a bright tawny colour. Mr William Bartram, who transmitted this bird, more than fifty years ago, to Mr Edwards, by whom it was drawn and engraved, examined the two species in my presence; and on comparing them with the one in Edwards, was satisfied that the bird there figured and described is not the wood thrush, (*turdus melodus*), but the tawny cheeked kind above mentioned. This species I have never seen in Pennsylvania but in spring and fall. It is still more solitary than the former; utters, at rare times, a single cry, similar to that of a chicken which has lost its mother; and is, probably, the same bird which is described by Sloane and Catesby.

As the Count de Buffon has drawn his description from those above mentioned, the same observations apply equally to what he has said on the subject; and the beautiful little theory which this writer had formed to account for its want of song, vanishes into empty air; viz. that the song thrush of Europe (*turdus musicus*) had, at some time after the creation, rambled round by the northern ocean, and made its way to America; that, advancing to the south, it had there (of consequence) become degenerated by change of food and climate, so that its cry is now harsh and unpleasant, "as are the cries of all birds that live in wild countries inhabited by savages."†

* EDWARDS, 296.

† BUFFON, vol. iii, 289. The figure in pl. enl. 398, has little or no resemblance to the wood thrush, being of a deep green olive above, and spotted to the tail below with long streaks of brown.

92. *TURDUS MIGRATORIUS*, LINNÆUS AND WILSON. — THE ROBIN.

WILSON, PLATE II. FIG. II.

THIS well known bird, being familiar to almost every body, will require but a short description. It measures nine inches and a half in length; the bill is strong, an inch long, and of a full yellow, though sometimes black, or dusky near the tip of the upper mandible; the head, back of the neck, and tail, is black; the back and rump, an ash colour; the wings are black, edged with light ash; the inner tips of the two exterior tail feathers, are white; three small spots of white border the eye; the throat and upper part of the breast is black, the former streaked with white; the whole of the rest of the breast, down as far as the thighs, is of a dark orange; belly and vent, white, slightly waved with dusky ash; legs, dark brown; claws, black and strong. The name of this bird bespeaks him a bird of passage, as are all the different species of thrushes we have; but the one we are now describing being more unsettled, and continually roving about from one region to another, during fall and winter, seems particularly entitled to the appellation. Scarce a winter passes but innumerable thousands of them are seen in the lower parts of the whole Atlantic States, from New Hampshire to Carolina, particularly in the neighbourhood of our towns; and, from the circumstance of their leaving, during that season, the country to the northwest of the great range of the Alleghany, from Maryland northward, it would appear, that they not only migrate from north to south, but from west to east, to avoid the deep snows that generally prevail on these high regions for at least four months in the year.

The robin builds his nest, often on an apple tree, plasters it in the inside with mud, and lays five eggs of a beautiful sea green. The colours of the female are more of the light ash, less deepened with black; and the orange on the breast is much paler, and more broadly

skirted with white. Their principal food is berries, worms, and caterpillars. Of the first he prefers those of the sour gum (*nyssa sylvatica*.) So fond are they of gum-berries, that wherever there is one of these trees covered with fruit, and flocks of robins in the neighbourhood, the sportsman need only take his stand near it, load, take aim, and fire; one flock succeeding another, with little interruption, almost the whole day; by this method prodigious slaughter has been made among them with little fatigue. When berries fail, they disperse themselves over the fields, and along the fences, in search of worms and other insects. Sometimes they will disappear for a week or two, and return again in greater numbers than before; at which time the cities pour out their sportsmen by scores, and the markets are plentifully supplied with them at a cheap rate. In January, 1807, two young men, in one excursion after them, shot thirty dozen. In the midst of such devastation, which continued many weeks, and, by accounts, extended from Massachusetts to Maryland, some humane person took advantage of a circumstance common to these birds in winter, to stop the general slaughter. The fruit called poke-berries (*phytolacca decandria*, Linn.) is a favourite repast with the robin, after they are mellowed by the frost. The juice of the berries is of a beautiful crimson, and they are eaten in such quantities by these birds, that their whole stomachs are strongly tinged with the same red colour. A paragraph appeared in the public papers, intimating, that from the great quantities of these berries which the robins had fed on, they had become unwholesome, and even dangerous food; and that several persons had suffered by eating of them. The strange appearance of the bowels of the birds seemed to corroborate this account. The demand for, and use of them, ceased almost instantly; and motives of self-preservation produced at once what all the pleadings of humanity could not effect.* When

* Governor Drayton, in his *View of South Carolina*, p. 86, observes, that "the robins in winter devour the berries of the

fat, they are in considerable esteem for the table, and probably not inferior to the *turdi* of the ancients, which they bestowed so much pains on in feeding and fattening. The young birds are frequently and easily raised, bear the confinement of the cage, feed on bread, fruits, &c. sing well, readily learn to imitate parts of tunes, and are very pleasant and cheerful domestics. In these I have always observed that the orange on the breast is of a much deeper tint, often a dark mahogany or chestnut colour, owing, no doubt, to their food and confinement.

The robin is one of our earliest songsters; even in March, while snow yet dapples the fields, and flocks of them are dispersed about; some few will mount a post or stake of the fence, and make short and frequent attempts at their song. Early in April, they are only to be seen in pairs, and deliver their notes with great earnestness, from the top of some tree detached from the woods. This song has some resemblance to, and indeed is no bad imitation of, the notes of the thrush or thrasher (*turdus rufus*); but, if deficient in point of execution, he possesses more simplicity, and makes up in zeal what he wants in talent; so that the notes of the robin, in spring, are universally known, and as universally beloved. They are, as it were, the prelude to the grand general concert that is about to burst upon us from woods, fields, and thickets, whitened with blossoms, and breathing fragrance. By the usual association of ideas, we therefore listen with more pleasure to this cheerful bird, than to many others possessed of far superior powers, and much greater variety. Even his nest is held more sacred among schoolboys than that of some others; and, while they will exult in plundering a jay's or a cat bird's, a general sentiment of respect prevails on the discovery of a robin's. Whether he owes not some little of this veneration to the well

bead tree (*melia azaderach*) in such large quantities, that, after eating of them, they are observed to fall down, and are readily taken. This is ascribed more to distension from abundant eating than from any deleterious qualities of the plant."

known and long established character of his namesake in Britain, by a like association of ideas, I will not pretend to determine. He possesses a good deal of his suavity of manners; and almost always seeks shelter for his young in summer, and subsistence for himself in the extremes of winter, near the habitations of man.

The robin inhabits the whole of North America, from Hudson's Bay to Nootka Sound, and as far south as Georgia, though they rarely breed on this side the mountains farther south than Virginia. Mr Forster says, that about the beginning of May they make their appearance in pairs at the settlements of Hudson's Bay, at Severn river; and what is very remarkable, if correct, that, at Moose Fort, they build, lay, and hatch, in fourteen days! But that at the former place, four degrees more north, they are said to take twenty-six days. *Phil. Trans.* lxii, 399. They are also common in Newfoundland, quitting these northern parts in October. The young, during the first season, are spotted with white on the breast, and, at that time, have a good deal of resemblance to the fieldfare of Europe.

Mr Hearne informs us, that the red-breasted thrushes are commonly called, at Hudson's Bay, the red birds; by some, the blackbirds, on account of their note; and by others, the American fieldfares,—that they make their appearance at Churchill river about the middle of May, and migrate to the south early in the fall. They are seldom seen there but in pairs; and are never killed for their flesh, except by the Indian boys.*

Several authors have asserted, that the red-breasted thrush cannot brook the confinement of the cage, and never sings in that state. But, except the mocking bird, (*turdus polyglottus*,) I know of no native bird which is so frequently domesticated, agrees better with confinement, or sings in that state more agreeably than the robin. They generally suffer severely in moulting time; yet often live to a considerable age. A lady, who

* *Journey to the Northern Ocean*, p. 418, quarto. Lond. 1795.

resides near Tarrytown, on the banks of the Hudson, informed me, that she raised and kept one of these birds for seventeen years; which sung as well, and looked as sprightly, at that age as ever; but was at last unfortunately destroyed by a cat. The morning is their favourite time for song. In passing through the streets of our large cities, on Sunday, in the months of April and May, a little after daybreak, the general silence which usually prevails without at that hour, will enable you to distinguish every house where one of these songsters resides, as he makes it then ring with his music.

Not only the plumage of the robin, as of many other birds, is subject to slight periodical changes of colour, but even the legs, feet, and bill; the latter, in the male, being frequently found tipped and ridged for half its length with black. In the depth of winter their plumage is generally best; at which time the full grown bird appears in his most perfect dress.

93. *TURDUS RUFUS*, LINNÆUS AND WILSON.

FERRUGINOUS THRUSH.

WILSON, PLATE XIV. FIG. 1.

THIS is the brown thrush, or thrasher of the middle and eastern States; and the French mocking bird* of Maryland, Virginia, and the Carolinas. It is the largest of all our thrushes, and is a well known and very distinguished songster. About the middle, or 20th of April, or generally about the time the cherry trees begin to blossom, he arrives in Pennsylvania; and from the tops of our hedgerows, sassafras, apple or cherry trees, he salutes the opening morning with his charming song, which is loud, emphatical, and full of variety. At that serene hour, you may plainly distinguish his voice full half a mile off. These notes are not imitative, as

* See article *Mocking Bird*, for the supposed origin of this name.

his name would import, and as some people believe, but seem solely his own; and have considerable resemblance to the notes of the song thrush (*turdus musicus*) of Britain. Early in May he builds his nest, choosing a thorn bush, low cedar, thicket of briers, dogwood sapling, or cluster of vines, for its situation, generally within a few feet of the ground. Outwardly, it is constructed of small sticks; then layers of dry leaves, and, lastly, lined with fine fibrous roots; but without any plaster. The eggs are five, thickly sprinkled with ferruginous grains, on a very pale bluish ground. They generally have two brood in a season. Like all birds that build near the ground, he shews great anxiety for the safety of his nest and young, and often attacks the black snake in their defence; generally, too, with success, his strength being greater, and his bill stronger and more powerful, than any other of his tribe within the United States. His food consists of worms, which he scratches from the ground, caterpillars, and many kinds of berries. Beetles, and the whole race of coleopterous insects, wherever he can meet with them, are sure to suffer. He is accused, by some people, of scratching up the hills of Indian corn, in planting time; this may be partly true; but, for every grain of maize he pilfers, I am persuaded, he destroys five hundred insects; particularly a large dirty-coloured grub, with a black head, which is more pernicious to the corn, and other grain and vegetables, than nine-tenths of the whole feathered race. He is an active vigorous bird, flies generally low, from one thicket to another, with his long broad tail spread like a fan; is often seen about brier and bramble bushes, along fences; and has a single note or chuck, when you approach his nest. In Pennsylvania, they are numerous, but never fly in flocks. About the middle of September, or as soon as they have well recovered from moulting, in which they suffer severely, they disappear for the season. In passing through the southern parts of Virginia, and south as far as Georgia, in the depth of winter, I found them lingering in sheltered situations, particularly on the

border of swamps and rivers. On the first of March, they were in full song round the commons at Savannah, as if straining to outstrip the mocking bird, that prince of feathered musicians.

The thrasher is a welcome visitant in spring, to every lover of rural scenery and rural song. In the months of April and May, when our woods, hedgerows, orchards, and cherry trees, are one profusion of blossoms, when every object around conveys the sweet sensation of joy, and heaven's abundance is, as it were, showering around us, the grateful heart beats in unison with the varying elevated strains of this excellent bird; we listen to its notes with a kind of devotional ecstasy, as a morning hymn to the great and most adorable Creator of all. The human being who, amidst such scenes, and in such seasons of rural serenity and delight, can pass them with cold indifference, and even contempt, I sincerely pity; for abject must that heart be, and callous those feelings, and depraved that taste, which neither the charms of nature, nor the melody of innocence, nor the voice of gratitude or devotion can reach.

This bird inhabits North America, from Canada to the point of Florida. They are easily reared, and become very familiar when kept in cages; and though this is rarely done, yet I have known a few instances where they sung in confinement with as much energy as in their native woods. They ought frequently to have earth and gravel thrown in to them, and have plenty of water to bathe in.

The ferruginous thrush is eleven inches and a half long, and thirteen in extent; the whole upper parts are of a bright reddish brown; wings, crossed with two bars of white, relieved with black; tips and inner vanes of the wings, dusky; tail, very long, rounded at the end, broad, and of the same reddish brown as the back; whole lower parts, yellowish white; the breast, and sides under the wings, beautifully marked with long pointed spots of black, running in chains; chin, white; bill, very long and stout, not notched, the upper mandible overhanging the lower a little, and

beset with strong bristles at the base, black above, and whitish below, near the base; legs, remarkably strong, and of a dusky clay colour; iris of the eye, brilliant yellow. The female may be distinguished from the male by the white on the wing being much narrower, and the spots on the breast less. In other respects, their plumage is nearly alike.

Concerning the sagacity and reasoning faculty of this bird, my venerable friend Mr Bartram writes me as follows:—"I remember to have reared one of these birds from the nest; which, when full grown, became very tame and docile. I frequently let him out of his cage to give him a taste of liberty; after fluttering and dusting himself in dry sand and earth, and bathing, washing, and dressing himself, he would proceed to hunt insects, such as beetles, crickets, and other shelly tribes; but, being very fond of wasps, after catching them, and knocking them about to break their wings, he would lay them down, then examine if they had a sting, and, with his bill, squeeze the abdomen to clear it of the reservoir of poison, before he would swallow his prey. When in his cage, being very fond of dry crusts of bread, if, upon trial, the corners of the crumbs were too hard and sharp for his throat, he would throw them up, carry, and put them in his water dish to soften; then take them out and swallow them. Many other remarkable circumstances might be mentioned that would fully demonstrate faculties of *mind*; not only innate, but acquired ideas, (derived from necessity in a state of domestication,) which we call understanding and knowledge. We see that this bird could associate those ideas, arrange and apply them in a rational manner, according to circumstances. For instance, if he knew that it was the hard sharp corners of the crumb of bread that hurt his gullet, and prevented him from swallowing it, and that water would soften, and render it easy to be swallowed, this knowledge must be acquired by observation and experience; or some other bird taught him. Here the bird perceived, by the effect, the cause, and then took the quickest, the

most effectual, and agreeable method to remove that cause. What could the wisest man have done better? Call it reason, or instinct, it is the same that a sensible man would have done in this case.

“After the same manner this bird reasoned with respect to the wasps. He found, by experience and observation, that the first he attempted to swallow hurt his throat, and gave him extreme pain; and, upon examination, observed that the extremity of the abdomen was armed with a poisonous sting; and, after this discovery, never attempted to swallow a wasp until he first pinched his abdomen to the extremity, forcing out the sting, with the receptacle of poison.”

It is certainly a circumstance highly honourable to the character of birds, and corroborative of the foregoing sentiments, that those who have paid the most minute attention to their manners, are uniformly their advocates and admirers. “He must,” said a gentleman to me the other day, when speaking of another person, — “He must be a good man; for those who have long known him, and are most intimate with him, respect him greatly, and always speak well of him.”

94. *TURDUS SOLITARIUS*, WILSON. — *TURDUS MINOR*, GMELIN.

HERMIT THRUSH.

WILSON, PLATE XLIII. FIG. II.

THE dark solitary cane and myrtle swamps of the southern States are the favourite native haunts of this silent and recluse species; and the more deep and gloomy these are, the more certain we are to meet with this bird flitting among them. This is the species mentioned, while treating of the wood thrush, as having been figured and described, more than fifty years ago, by Edwards, from a dried specimen sent him by my friend Mr William Bartram, under the supposition that it was the wood thrush, (*turdus melodus*.) It is, however, considerably less, very differently marked, and

altogether destitute of the clear voice and musical powers of that charming minstrel. It also differs, in remaining in the southern States during the whole year; whereas the wood thrush does not winter even in Georgia; nor arrives within the southern boundary of that State until some time in April.

The hermit thrush is rarely seen in Pennsylvania, unless for a few weeks in spring, and late in the fall, long after the wood thrush has left us, and when scarcely a summer bird remains in the woods. In both seasons it is mute, having only, in spring, an occasional squeak, like that of a young stray chicken. Along the Atlantic coast, in New Jersey, they remain longer and later, as I have observed them there late in November. In the cane swamps of the Chactaw nation, they were frequent in the month of May, on the 12th of which I examined one of their nests on a horizontal branch, immediately over the path. The female was sitting, and left it with great reluctance, so that I had nearly laid my hand on her before she flew. The nest was fixed on the upper part of the body of the branch, and constructed with great neatness; but without mud or plaster, contrary to the custom of the wood thrush. The outside was composed of a considerable quantity of coarse rooty grass, intermixed with horse hair, and lined with a fine, green coloured, thread-like grass, perfectly dry, laid circularly, with particular neatness. The eggs were four, of a pale greenish blue, marked with specks and blotches of olive, particularly at the great end. I also observed this bird on the banks of the Cumberland river in April. Its food consists chiefly of berries, of which these low swamps furnish a perpetual abundance, such as those of the holly, myrtle, gall bush, (a species of *vaccinium*,) yapon shrub, and many others.

A superficial observer would instantly pronounce this to be only a variety of the wood thrush; but, on a more into consideration its difference of size, colour, manners, want of song, secluded habits, differently formed nest, and spotted eggs, all unlike those of the

former, with which it never associates, it is impossible not to conclude it to be a distinct and separate species, however near it may approach to that of the former. Its food, and the country it inhabits, for half the year, being the same, neither could have produced those differences; and we must believe it to be now, what it ever has, and ever will be, a distinct connecting link in the great chain of this part of animated nature; all the sublime reasoning of certain theoretical closet philosophers to the contrary notwithstanding.

Length of the hermit thrush, seven inches; extent, ten inches and a half; upper parts, plain deep olive brown; lower, dull white; upper part of the breast and throat, dull cream colour, deepest where the plumage falls over the shoulders of the wing, and marked with large dark brown pointed spots; ear, feathers, and line over the eye, cream, the former mottled with olive; edges of the wings, lighter, tips, dusky; tail coverts and tail, inclining to a reddish fox colour. In the wood thrush, these parts incline to greenish olive. Tail, slightly forked; legs, dusky; bill, black above and at the tip, whitish below; iris, black, and very full; chin, whitish.

The female differs very little,—chiefly in being generally darker in the tints, and having the spots on the breast larger and more dusky.

95. *TURDUS WILSONII*, BONAP. — *TURDUS MUSTELINUS*, WILS.

WILSON'S THRUSH. — TAWNY THRUSH.

WILSON, PLATE XLIII. FIG. III.

THIS species makes its appearance in Pennsylvania from the south, regularly about the beginning of May, stays with us a week or two, and passes on to the north and to the high mountainous districts to breed. It has no song, but a sharp chuck. About the 20th of May I met with numbers of them in the Great Pine swamp, near Pocano; and on the 25th of September, in the same year, I shot several of them in the neighbourhood of Mr Bartram's place. I have examined many of these

birds in spring, and also on their return in fall, and found very little difference among them between the male and female. In some specimens the wing-coverts were brownish yellow; these appeared to be young birds. I have no doubt but they breed in the northern high districts of the United States; but I have not yet been able to discover their nests.

The tawny thrush is ten inches long, and twelve inches in extent; the whole upper parts are a uniform tawny brown; the lower parts, white; sides of the breast, and under the wings, slightly tinged with ash; chin, white; throat, and upper parts of the breast, cream coloured, and marked with pointed spots of brown; lores, pale ash, or bluish white; cheeks, dusky brown; tail, nearly even at the end, the shafts of all, as well as those of the wing quills, continued a little beyond their webs; bill, black above and at the point, below at the base, flesh coloured; corners of the mouth, yellow; eye, large and dark, surrounded with a white ring; legs, long, slender, and pale brown.

Though I have given this bird the same name that Mr Pennant has applied to one of our thrushes, it must not be considered as the same; the bird which he has denominated the tawny thrush being evidently, from its size, markings, &c. the wood thrush, already described.

No description of this bird has, to my knowledge, appeared in any former publication.

GENUS XXI. — *SYLVIA*, LATHAM.

SUBGENUS I. — *SYLVIA*.

96. *SYLVIA AUROCAPILLA*, BONAPARTE. — *TURDUS AUROCAPILLUS*, WILSON.

GOLDEN-CROWNED THRUSH.

WILSON, PLATE XIV. FIG. II.

THOUGH the epithet golden-crowned is not very suitable for this bird, — that part of the head being rather of a brownish orange, — yet, to avoid confusion, I have retained it.

This is also a migratory species, arriving in Pennsylvania late in April, and leaving us again late in September. It is altogether an inhabitant of the woods, runs along the ground like a lark, and even along the horizontal branches, frequently moving its tail in the manner of the wagtails. It has no song; but a shrill, energetic twitter, formed by the rapid reiteration of two notes, *peche, peche, peche*, for a quarter of a minute at a time. It builds a snug, somewhat singular nest, on the ground, in the woods, generally on a declivity facing the south. This is formed of leaves and dry grass, and lined with hair. Though sunk below the surface, it is arched over, and only a small hole left for entrance; the eggs are four, sometimes five, white, irregularly spotted with reddish brown, chiefly near the great end. When alarmed, it escapes from the nest with great silence and rapidity, running along the ground like a mouse, as if afraid to tread too heavily on the leaves; if you stop to examine its nest, it also stops, droops its wings, flutters, and tumbles along, as if hardly able to crawl, looking back now and then to see whether you are taking notice of it. If you slowly follow, it leads you fifty or sixty yards off, in a direct line from its nest, seeming at every advance to be gaining fresh strength; and when it thinks it has decoyed you to a sufficient distance, it suddenly wheels off and disappears. This kind of deception is practised by many other species of birds that build on the ground; and is sometimes so adroitly performed as actually to have the desired effect of securing the safety of its nest and young.

This is one of those birds frequently selected by the cowpen bunting to be the foster parent of its young. In the nest of this bird the cow bird deposits its egg, and leaves the result to the mercy and management of the thrush, who generally performs the part of a faithful and affectionate nurse to the foundling.

The golden-crowned thrush is six inches long, and nine in extent; the whole upper parts, except the crown and hind head, are a rich yellow olive; the tips

of the wings, and inner vanes of the quills, are dusky brown; from the nostrils, a black strip passes to the hind head on each side, between which lies a bed of brownish orange; the sides of the neck are whitish; the whole lower parts, white, except the breast, which is handsomely marked with pointed spots of black, or deep brown, as in the figure; round the eye is a narrow ring of yellowish white; legs, pale flesh colour; bill, dusky above, whitish below. The female has the orange on the crown considerably paler.

This bird might with propriety be ranged with the wagtails, its notes, manners, and habit of building on the ground being similar to these. It usually hatches twice in the season; feeds on small bugs, and the larvæ of insects, which it chiefly gathers from the ground. It is very generally diffused over the United States, and winters in Jamaica, Hispaniola, and other islands of the West Indies.

97. *SYLVIA NOVEBORACENSIS*, LATHAM. — *TURDUS AQUATICUS*, WILSON.

WATER THRUSH.

WILSON, PLATE XXIII. FIG. V.

THIS bird is remarkable for its partiality to brooks, rivers, shores, ponds, and streams of water; wading in the shallows in search of aquatic insects, wagging the tail almost continually, chattering as it flies,—and, in short, possesses many strong traits and habits of the water wagtail. It is also exceedingly shy, darting away on the least attempt to approach it, and uttering a sharp chip repeatedly, as if greatly alarmed. Among the mountain streams in the state of Tennessee, I found a variety of this bird pretty numerous, with legs of a bright yellow colour; in other respects it differed not from the rest. About the beginning of May it passes through Pennsylvania to the north; is seen along the channels of our solitary streams for ten or twelve days; afterwards disappears until August. It is probable

that it breeds in the higher mountainous districts even of this state, as do many other of our spring visitants that regularly pass a week or two with us in the lower parts, and then retire to the mountains and inland forests to breed.

But Pennsylvania is not the favourite resort of this species. The cane brakes, swamps, river shores, and deep watery solitudes of Louisiana, Tennessee, and the Mississippi territory, possess them in abundance; there they are eminently distinguished by the loudness, sweetness, and expressive vivacity of their notes, which begin very high and clear, falling with an almost imperceptible gradation till they are scarcely articulated. At these times the musician is perched on the middle branches of a tree over the brook or river bank, pouring out his charming melody, that may be distinctly heard for nearly half a mile. The voice of this little bird appeared to me so exquisitely sweet and expressive, that I was never tired of listening to it, while traversing the deep shaded hollows of those cane brakes where it usually resorts. I have never yet met with its nest.

The water thrush is six inches long, and nine and a half in extent; the whole upper parts are of a uniform and very dark olive, with a line of white extending over the eye, and along the sides of the neck; the lower parts are white, tinged with yellow ochre; the whole breast and sides are marked with pointed spots or streaks of black or deep brown; bill, dusky brown; legs, flesh coloured; tail, nearly even; bill, formed almost exactly like the golden-crowned thrush just described; and except in frequenting the water, much resembling it in manners. Male and female nearly alike.

98. *SYLVIA VIRENS*, LATHAM AND WILSON.

BLACK-THROATED GREEN WARBLER.

WILSON, PLATE XVII. FIG. III.

THIS is one of those transient visitors that pass through Pennsylvania, in the latter part of April and

beginning of May, on their way to the north to breed. It generally frequents the high branches and tops of trees, in the woods, in search of the *larvæ* of insects that prey on the opening buds. It has a few singular chirruping notes; and is very lively and active. About the 10th of May it disappears. It is rarely observed on its return in the fall, which may probably be owing to the scarcity of its proper food at that season obliging it to pass with greater haste; or to the foliage, which prevents it and other passengers from being so easily observed. Some few of these birds, however, remain all summer in Pennsylvania, having myself shot three this season, [1809,] in the month of June; but I have never yet seen their nest.

This species is four inches and three quarters long, and seven broad; the whole back, crown, and hind head, is of a rich yellowish green; front, cheeks, sides of the breast, and line over the eye, yellow; chin and throat, black; sides, under the wings, spotted with black; belly and vent, white; wings, dusky black, marked with two white bars; bill, black; legs and feet, brownish yellow; tail, dusky, edged with light ash; the three exterior feathers spotted on their inner webs with white. The female is distinguished by having no black on the throat.

99. *SYLVIA CORONATA*, LATHAM AND WILSON.

YELLOW-RUMP WARBLER.

WILSON, PLATE XVII, FIG. IV. — SUMMER DRESS.

IN this beautiful little species we have another instance of the mistakes occasioned by the change of colour to which many of our birds are subject. In the present case this change is both progressive and periodical. The young birds of the first season are of a brown olive above, which continues until the month of February and March; about which time it gradually changes into a fine slate colour. About the middle of April this change is completed. I have shot them in all their

gradations of change. While in their brown olive dress, the yellow on the sides of the breast and crown is scarcely observable, unless the feathers be parted with the hand; but that on the rump is still vivid; the spots of black on the cheek are then also obscured. The difference of appearance, however, is so great, that we need scarcely wonder that foreigners, who have no opportunity of examining the progress of these variations, should have concluded them to be two distinct species.

This bird is also a passenger through Pennsylvania. Early in October he arrives from the north, in his olive dress, and frequents the cedar trees, devouring the berries with great avidity. He remains with us three or four weeks, and is very numerous wherever there are trees of the red cedar covered with berries. He leaves us for the south, and spends the winter season among the myrtle swamps of Virginia, the Carolinas, and Georgia. The berries of the *myrica cerifera*, both the large and dwarf kind, are his particular favourites. On those of the latter I found him feeding, in great numbers, near the sea shore, in the district of Maine, in October; and through the whole of the lower parts of the Carolinas, wherever the myrtles grew, these birds were numerous, skipping about, with hanging wings, among the bushes. In those parts of the country, they are generally known by the name of myrtle birds. Round Savannah, and beyond it as far as the Alatomaha, I found him equally numerous, as late as the middle of March, when his change of colour had considerably progressed to the slate hue. Mr Abbot, who is well acquainted with this change, assured me, that they attain this rich slate colour fully before their departure from thence, which is about the last of March, and to the 10th of April. About the middle or 20th of the same month, they appear in Pennsylvania, in full dress; and after continuing to be seen, for a week or ten days, skipping among the high branches and tops of the trees, after those larvæ that feed on the opening buds, they disappear until the next October.

Whether they retire to the north, or to the high ranges of our mountains to breed, like many other of our passengers, is yet uncertain. They are a very numerous species, and always associate together in considerable numbers, both in spring, winter, and fall.

This species is five inches and a half long, and eight inches broad; whole back, tail-coverts, and hind head, a fine slate colour, streaked with black; crown, sides of the breast, and rump, rich yellow; wings and tail, black; the former crossed with two bars of white, the three exterior feathers of the latter spotted with white; cheeks and front, black; chin, line over and under the eye, white; breast, light slate, streaked with black extending under the wings; belly and vent, white, the latter spotted with black; bills and legs, black. This is the spring and summer dress of the male; that of the female of the same season differs but little, chiefly in the colours being less vivid, and not so strongly marked with a tincture of brownish on the back.

In the month of October the slate colour has changed to a brownish olive; the streaks of black are also considerably brown, and the white is stained with the same colour; the tail-coverts, however, still retain their slaty hue, the yellow on the crown and sides of the breast becomes nearly obliterated. Their only note is a kind of chip, occasionally repeated. Their motions are quick, and one can scarcely ever observe them at rest.

Though the form of the bill of this bird obliges me to arrange him with the warblers, yet, in his food and all his motions, he is decisively a flycatcher.

On again recurring to the descriptions in Pennant of the "yellow-rump warbler,"* "golden crowned warbler,"† and "belted warbler,"‡ I am persuaded that the whole three have been drawn from the present species.

* *Arctic Zoology*, p. 400, No. 188.

† *Ibid.* No. 294.

‡ *Ibid.* No. 806.

100. *SYLVIA CORONATA*, LATHAM AND WILSON.

YELLOW-RUMP WARBLER.

WILSON, PLATE XLV. FIG. III.—WINTER PLUMAGE.

I MUST refer the reader to the last article for the description of this bird in his perfect colours; the present exhibits him in his winter dress, as he arrives to us, from the north, early in September; the former shews him in his spring and summer dress, as he visits us, from the south, about the 20th of March. These birds remain with us, in Pennsylvania, from September, until the season becomes severely cold, feeding on the berries of the red cedar; and, as December's snows come on, they retreat to the lower countries of the southern States, where, in February, I found them in great numbers, among the myrtles, feeding on the berries of that shrub; from which circumstance, they were usually called, in that quarter, myrtle birds. Their breeding place I suspect to be in our northern districts, among the swamps and evergreens so abundant there, having myself shot them in the Great Pine swamp about the middle of May.

They range along our whole Atlantic coast in winter, seeming particularly fond of the red cedar and the myrtle; and I have found them numerous, in October, on the low islands along the coast of New Jersey in the same pursuit. They also dart after flies, wherever they can see them, generally skipping about with the wings loose.

Length, five inches and a quarter; extent, eight inches; upper parts and sides of the neck, a dark mouse brown, obscurely streaked on the back with dusky black; lower parts, pale dull yellowish white; breast, marked with faint streaks of brown; chin and vent, white; rump, vivid yellow; at each side of the breast, and also on the crown, a spot of fainter yellow; this last not observable, without separating the plumage; bill, legs, and wings, black; lesser coverts, tip with

brownish white; tail coverts, slate; the three exterior tail feathers, marked on their inner vanes with white; a touch of the same on the upper and lower eyelid. Male and female, at this season, nearly alike. They begin to change about the middle of February, and in four or five weeks are in their slate-coloured dress.

101. *SYLVIA MAGNOLIA*, WILSON. — *S. MACULOSA*, LATH.

BLACK AND YELLOW WARBLER.

WILSON, PLATE XXIII. FIG. II. — MALE.

THIS bird I first met with on the banks of the Little Miami, near its junction with the Ohio. I afterwards found it among the magnolias, not far from fort Adams, on the Mississippi. These two, both of which happened to be males, are all the individuals I have ever shot of this species; from which I am justified in concluding it to be a very scarce bird in the United States. Mr Peale, however, has the merit of having been the first to discover this elegant species, which, he informs me, he found several years ago not many miles from Philadelphia. No notice has ever been taken of this bird by any European naturalist whose works I have examined. Its notes, or rather chirpings, struck me as very peculiar and characteristic; but have no claim to the title of song. It kept constantly among the higher branches, and was very active and restless.

Length, five inches; extent, seven inches and a half; front, lores, and behind the ear, black; over the eye, a fine line of white, and another small touch of the same immediately under; back, nearly all black; shoulders, thinly streaked with olive; rump, yellow; tail-coverts, jet black; inner vanes of the lateral tail feathers, white, to within half an inch of the tip, where they are black; two middle ones, wholly black; whole lower parts, rich yellow, spotted from the throat downwards with black streaks; vent, white; tail, slightly forked; wings, black, crossed with two broad transverse bars

of white; crown, fine ash; legs, brown; bill, black. Markings of the female not known.

102 SYLVIA BLACKBURNIÆ, LATHAM AND WILSON.

BLACKBURNIAN WARBLER.

WILSON, PLATE XXIII. FIG. III.

THIS is another scarce species in Pennsylvania, making its appearance here about the beginning of May; and again in September on its return, but is seldom seen here during the middle of summer. It is an active, silent bird. Inhabits also the State of New York, from whence it was first sent to Europe. Mr Latham has numbered this as a variety of the yellow-fronted warbler, a very different species. The specimen sent to Europe, and first described by Pennant, appears also to have been a female, as the breast is said to be yellow, instead of the brilliant orange with which it is ornamented. Of the nest and habits of this bird I can give no account, as there is not more than one or two of these birds to be found here in a season, even with the most diligent search.

The Blackburnian warbler is four inches and a half long, and seven in extent; crown, black, divided by a line of orange; the black again bounded on the outside by a stripe of rich orange passing over the eye; under the eye, a small touch of orange yellow; whole throat and breast, rich fiery orange, bounded by spots and streaks of black; belly, dull yellow, also streaked with black; vent, white; back, black, skirted with ash; wings the same, marked with a large lateral spot of white; tail, slightly forked; the interior vanes of the three exterior feathers, white; cheeks, black; bill and legs, brown. The female is yellow where the male is orange; the black streaks are also more obscure and less numerous.

103. *SYLVIA MARITIMA*, WILSON. — CAPE MAY WARBLER.

WILSON, PLATE LIV. FIG. III. — MALE.

THIS new and beautiful little species was discovered in a maple swamp, in Cape May county, not far from the coast, by Mr George Ord of this city, who accompanied me on a shooting excursion to that quarter in the month of May last, [1811.] Through the zeal and activity of this gentleman I succeeded in procuring many rare and elegant birds among the sea islands and extensive salt marshes that border that part of the Atlantic; and much interesting information relative to their nests, eggs, and particular habits. I have also at various times been favoured with specimens of other birds from the same friend, for all which I return my grateful acknowledgments.

The same swamp that furnished us with this elegant little stranger, and indeed several miles around it, were ransacked by us both for another specimen of the same; but without success. Fortunately it proved to be a male, and in excellent plumage.

Whether this be a summer resident in the lower parts of New Jersey, or merely a transient passenger to a more northern climate, I cannot with certainty determine. The spring had been remarkably cold, with long and violent northeast storms, and many winter birds, as well as passengers from the south, still lingered in the woods as late as the 20th of May, gleaning, in small companies, among the opening buds and infant leaves, and skipping nimbly from twig to twig, which was the case with the bird now before us when it was first observed. Of its notes, or particular history, I am equally uninformed.

The length of this species is five inches and a half, extent, eight and a half; bill and legs, black; whole upper part of the head, deep black; line from the nostril over the eye, chin, and sides of the neck, rich yellow; ear feathers orange, which also tints the back part of

the yellow line over the eye; at the anterior and posterior angle of the eye is a small touch of black; hind head and whole back, rump, and tail-coverts, yellow olive, thickly streaked with black; the upper exterior edges of several of the greater wing-coverts are pure white, forming a broad bar on the wing, the next superior row being also broadly tipped with white; rest of the wing, dusky, finely edged with dark olive yellow; throat and whole breast, rich yellow, spreading also along the sides under the wings, handsomely marked with spots of black running in chains; belly and vent, yellowish white; tail, forked, dusky black, edged with yellow olive, the three exterior feathers on each side marked on their inner vanes with a spot of white. The yellow on the throat and sides of the neck reaches nearly round it, and is very bright.

104. *SYLVIA PARDALINA*, BONAPARTE.

MUSCICAPA CANADENSIS, WILSON. — CANADA FLYCATCHER.

WILSON, PLATE XXVI. FIG. II. — MALE.

THIS is a solitary, and, in the lower parts of Pennsylvania, rather a rare species; being more numerous in the interior, particularly near the mountains, where the only two I ever met with were shot. They are silent birds, as far as I could observe; and were busily darting among the branches after insects. From the specific name given them, it is probable that they are more plenty in Canada than in the United States; where it is doubtful whether they be not mere passengers in spring and autumn.

This species is four inches and a half long, and eight in extent; front, black; crown, dappled with small streaks of grey and spots of black; line from the nostril to and around the eye, yellow; below the eye, a streak or spot of black, descending along the sides of the throat, which, as well as the breast and belly, is brilliant yellow, the breast being marked with a broad rounding band of

black, composed of large irregular streaks ; back, wings, and tail, cinereous brown ; vent, white ; upper mandible, dusky, lower, flesh coloured ; legs and feet, the same ; eye, hazel.

Never having met with the female of this bird, I am unable, at present, to say in what its colours differ from those of the male.

105. *SYLFIA MITRATA*, LATH. — *MUSCICAPA CUCULLATA*, WILSON.

HOODED FLYCATCHER.

WILSON, PLATE XXVI. FIG. III. — MALE.

WHY those two judicious naturalists, Pennant and Latham, should have arranged this bird with the warblers is to me unaccountable, as few of the *muscipæ* are more distinctly marked than the species now before us. The bill is broad at the base, where it is beset with bristles ; the upper mandible, notched, and slightly overhanging at the tip ; and the manners of the bird, in every respect, those of a flycatcher. This species is seldom seen in Pennsylvania and the northern States ; but through the whole extent of country south of Maryland, from the Atlantic to the Mississippi, is very abundant. It is, however, most partial to low situations, where there is plenty of thick underwood ; abounds among the canes in the State of Tennessee, and in the Mississippi territory ; and seems perpetually in pursuit of winged insects ; now and then uttering three loud, not unmusical, and very lively notes, resembling *twee, twee, twitchie*, while engaged in the chase. Like almost all its tribe, it is full of spirit, and exceedingly active. It builds a very neat and compact nest, generally in the fork of a small bush, forms it outwardly of moss and flax, or broken hemp, and lines it with hair, and sometimes feathers ; the eggs are five, of a grayish white, with red spots towards the great end. In all parts of the United States, where it inhabits, it is a bird of passage. At Savannah I met with it about the 20th of

March; so that it probably retires to the West India islands, and perhaps Mexico, during winter. I also heard this bird among the rank reeds and rushes within a few miles of the mouth of the Mississippi. It has been sometimes seen in the neighbourhood of Philadelphia, but rarely; and, on such occasions, has all the mute timidity of a stranger at a distance from home.

This species is five inches and a half long, and eight in extent; forehead, cheeks, and chin, yellow, surrounded with a hood of black, that covers the crown, hind head, and part of the neck, and descends, rounding, over the breast; all the rest of the lower parts are rich yellow; upper parts of the wings, the tail, and back, yellow olive; interior vanes, and tips of the wing and tail, dusky; bill, black; legs, flesh coloured; inner webs of the three exterior tail feathers, white for half their length from the tips; the next, slightly touched with white; the tail slightly forked, and exteriorly edged with rich yellow olive.

The female has the throat and breast yellow, slightly tinged with blackish; the black does not reach so far down the upper part of the neck, and is not of so deep a tint. In the other parts of her plumage she exactly resembles the male. I have found some females that had little or no black on the head or neck above; but these I took to be young birds, not yet arrived at their full tints.

106. *SYLVIA PENSILIS*, LATH. — *SYLVIA FLAVICOLLIS*, WILS.

YELLOW-THROAT WARBLER.

WILSON, PLATE XII. FIG. VI.

THE habits of this beautiful species are not consistent with the shape and construction of its bill; the former would rank it with the titmouse, or with the creepers, the latter is decisively that of the warbler. The first opportunity I had of examining a living specimen of this bird, was in the southern parts of Georgia, in the month of February. Its notes, which were pretty loud

and spirited, very much resembled those of the indigo bird. It continued a considerable time on the same pine tree, creeping around the branches, and among the twigs, in the manner of the titmouse, uttering its song every three or four minutes. On flying to another tree, it frequently alighted on the body, and ran nimbly up or down, spirally and perpendicularly, in search of insects. I had afterwards many opportunities of seeing others of the same species, and found them all to correspond in these particulars. This was about the 24th of February, and the first of their appearance there that spring, for they leave the United States about three months during winter, and, consequently, go to no great distance. I had been previously informed, that they also pass the summer in Virginia, and in the southern parts of Maryland; but they very rarely proceed as far north as Pennsylvania.

This species is five inches and a half in length, and eight and a half broad; the whole back, hind head and rump, is a fine light slate colour; the tail is somewhat forked, black, and edged with light slate; the wings are also black, the three shortest secondaries, broadly edged with light blue; all the wing quills are slightly edged with the same; the first row of wing-coverts are tipped and edged with white; the second, wholly white, or nearly so; the frontlet, ear feathers, lores, and above the temple, are black; the line between the eye and nostril, whole throat, and middle of the breast, brilliant golden yellow; the lower eyelid, line over the eye, and spot behind the ear feathers, as well as the whole lower parts, are pure white; the yellow on the throat is bordered with touches of black, which also extend along the sides, under the wings; the bill is black; the legs and feet, yellowish brown; the claws, extremely fine pointed; the tongue rather cartilaginous, and lacerated at the end. The female has the wings of a dingy brown, and the whole colours, particularly the yellow on the throat, much duller; the young birds of the first season are without the yellow.

107. *SYLVIA CASTANEA*, WILSON. — BAY-BREASTED WARBLER.

WILSON, PLATE XIV. FIG. IV.

THIS very rare species passes through Pennsylvania about the beginning of May, and soon disappears. It has many of the habits of the titmouse, and all their activity; hanging among the extremities of the twigs, and darting about from place to place, with restless diligence, in search of various kinds of the larvæ of insects. It is never seen here in summer, and very rarely on its return, owing, no doubt, to the greater abundance of foliage at that time, and to the silence and real scarcity of the species. Of its nest and egg, we are altogether uninformed.

The length of this bird is five inches, breadth, eleven; throat, breast, and sides under the wings, pale chestnut, or bay; forehead, cheeks, line over, and strip through the eye, black; crown, deep chestnut; lower parts, dull yellowish white; hind head and back, streaked with black, on a grayish buff ground; wings, brownish black, crossed with two bars of white; tail, forked, brownish black, edged with ash, the three exterior feathers marked with a spot of white on their inner edges; behind the eye is a broad oblong spot of yellowish white. The female has much less of the bay colour on the breast; the black on the forehead is also less, and of a brownish tint. The legs and feet, in both, are dark ash, the claws, extremely sharp for climbing and hanging; the bill is black; irides, hazel.

The ornithologists of Europe take no notice of this species, and have probably never met with it. Indeed, it is so seldom seen in this part of Pennsylvania, that few even of our own writers have mentioned it.

I lately received a very neat drawing of this bird, done by a young lady in Middleton, Connecticut, where it seems also to be a rare species.

108. *SYLVIA PENNSYLVANICA*, WILSON. — *SYLVIA ICTEROPHALA*, LATHAM.

CHESTNUT-SIDED WARBLER.

WILSON, PLATE XIV. FIG. V.

OF this bird I can give but little account. It is one of those transient visitors that pass through Pennsylvania in April and May, on their way farther north to breed. During its stay here, which seldom exceeds a week or ten days, it appears actively engaged among the opening buds and young leaves, in search of insects; has no song but a feeble chirp, or twitter; and is not numerous. As it leaves us early in May, it probably breeds in Canada, or, perhaps, some parts of New England; though I have no certain knowledge of the fact. In a whole day's excursion, it is rare to meet with more than one or two of these birds; though a thousand individuals of some species may be seen in the same time. Perhaps they may be more numerous on some other part of the continent.

The length of this species is five inches, the extent, seven and three quarters. The front, line over the eye, and ear feathers, are pure white; upper part of the head, brilliant yellow; the lores, and space immediately below, are marked with a triangular patch of black; the back and hind head is streaked with gray, dusky, black, and dull yellow; wings, black; primaries, edged with pale blue, the first and second row of coverts, broadly tipped with pale yellow; secondaries, broadly edged with the same; tail, black, handsomely forked, exteriorly edged with ash; the inner webs of the three exterior feathers with each a spot of white; from the extremity of the black, at the lower mandible, on each side, a streak of deep reddish chestnut descends along the sides of the neck, and under the wings, to the root of the tail; the rest of the lower parts are pure white; legs and feet, ash; bill, black; irides, hazel. The female has the hind head much lighter, and the chestnut on the

sides is considerably narrower, and not of so deep a tint.

Turton, and some other writers, have bestowed on this little bird the singular epithet of "bloody-sided," for which I was at a loss to know the reason, the colour of that part being a plain chestnut; till, on examining Mr Edwards's coloured figure of this bird in the public library of Philadelphia, I found its side tinged with a brilliant blood colour. Hence, I suppose, originated the name!

109. *SYLVIA PHILADELPHIA*, WILSON. — MOURNING WARBLER.

WILSON, PLATE XIV. FIG. VI.

I HAVE now the honour of introducing to the notice of naturalists and others, a very modest and neat little species, which has hitherto eluded their research. I must also add, with regret, that it is the only one of its kind I have yet met with. It was shot in the early part of June, on the border of a marsh, within a few miles of Philadelphia. It was flitting from one low bush to another, very busy in search of insects; and had a sprightly and pleasant warbling song, the novelty of which first attracted my attention. I have traversed the same and many such places, every spring and summer since, in expectation of again meeting with some individual of the species, but without success.

There are two species mentioned by Turton, to which the present has some resemblance, viz. *motacilla mitrata*, or mitred warbler, and *m. cucullata*, or hooded warbler; both birds of the United States, or, more properly, a single bird; for they are the same species twice described, namely, the hooded warbler. The difference, however, between that and the present is so striking, as to determine this at once to be a very distinct species. The singular appearance of the head, neck, and breast, suggested the name.

The mourning warbler is five inches long, and seven in extent; the whole back, wings, and tail, are of a

deep greenish olive; the tips of the wings, and the centre of the tail feathers excepted, which are brownish; the whole head is of a dull slate colour; the breast is ornamented with a singular crescent of alternate transverse lines of pure glossy white, and very deep black; all the rest of the lower parts are of a brilliant yellow; the tail is rounded at the end; legs and feet, a pale flesh colour; bill, deep brownish black above, lighter below; eye, hazel.

110. *SYLVIA CITRINELLA*, WILSON. — *S. RESTIVA*, LATHAM.

BLUE-EYED YELLOW WARBLER.

WILSON, PLATE XV. FIG. V.

THIS is a very common summer species, and appears almost always actively employed among the leaves and blossoms of the willows, snowball shrub, and poplars, searching after small green caterpillars, which are its principal food. It has a few shrill notes, uttered with emphasis, but not deserving the name of song. It arrives in Pennsylvania about the beginning of May, and departs again for the south about the middle of September. According to Latham, it is numerous in Guiana, and is also found in Canada. It is a very sprightly, unsuspicious, and familiar little bird; is often seen in and about gardens, among the blossoms of fruit trees and shrubberies; and, on account of its colour, is very noticeable. Its nest is built with great neatness, generally in the triangular fork of a small shrub, near or among brier bushes. Outwardly it is composed of flax or tow, in thick circular layers, strongly twisted round the twigs that rise through its sides, and lined within with hair and the soft downy substance from the stalks of fern. The eggs are four or five, of a dull white, thickly sprinkled near the great end with specks of pale brown. They raise two brood in the season. This little bird, like many others, will feign lameness, to draw you away from its nest, stretching out his neck,

spreading and bending down his tail, until it trails along the branch, and fluttering feebly along, to draw you after him; sometimes looking back, to see if you are following him, and returning to repeat the same manœuvres, in order to attract your attention. The male is most remarkable for this practice.

The blue-eyed warbler is five inches long and seven broad; hind head and back, greenish yellow; crown, front, and whole lower parts, rich golden yellow; breast and sides, streaked laterally with dark red; wings and tail, deep brown, except the edges of the former, and the inner vanes of the latter, which are yellow; the tail is also slightly forked; legs, a pale clay colour; bill and eyelids, light blue. The female is of a less brilliant yellow, and the streaks of red on the breast are fewer and more obscure. Buffon is mistaken in supposing No. 1. of pl. enl. plate lviii. to be the female of this species.

111. *SYLVIA CANADENSIS*, LATHAM AND WILSON.

BLACK-THROATED BLUE WARBLER.

WILSON, PLATE XV. FIG. VII.

I KNOW little of this bird. It is one of those transient visitors that, in the month of April, pass through Pennsylvania, on its way to the north, to breed. It has much of the flycatcher in its manners, though the form of its bill is decisively that of the warbler. These birds are occasionally seen for about a week or ten days, viz. from the 25th of April to the end of the first week in May. I sought for them in the southern States in winter, but in vain. It is highly probable that they breed in Canada; but the summer residents among the feathered race, on that part of the continent, are little known or attended to. The habits of the bear, the deer, and beaver, are much more interesting to those people, and for a good substantial reason too, because more lucrative; and unless there should arrive an order from England for a cargo of skins of warblers and

flycatchers, sufficient to make them an object worth speculation, we are likely to know as little of them hereafter as at present.

This species is five inches long, and seven and a half broad, and is wholly of a fine light slate colour above; the throat, cheeks, front and upper part of the breast, are black; wings and tail, dusky black, the primaries marked with a spot of white immediately below their coverts; tail, edged with blue; belly and vent, white; legs and feet, dirty yellow; bill, black, and beset with bristles at the base. The female is more of a dusky ash on the breast; and, in some specimens, nearly white.

They, no doubt, pass this way on their return in autumn, for I have myself shot several in that season; but as the woods are then still thick with leaves, they are much more difficult to be seen, and make a shorter stay than they do in spring.

112. *SYLVIA CÆRULEA*, WILSON. — *S. AZUREA*, STEPHEN.

CÆRULEAN WARBLER.

WILSON, PLATE XVII. FIG. V. — MALE.

THIS delicate little species is now, for the first time, introduced to public notice. Except my friend, Mr Peale, I know of no other naturalist who seems to have hitherto known of its existence. At what time it arrives from the south, I cannot positively say, as I never met with it in spring, but have several times found it during summer. On the borders of streams and marshes, among the branches of the poplar, it is sometimes to be found. It has many of the habits of the flycatcher; though, like the yellow-rump warbler, from the formation of its bill, we must arrange it with the warblers. It is one of our scarce birds in Pennsylvania, and its nest has hitherto eluded my search. I have never observed it after the 20th of August, and therefore suppose it retires early to the south.

This bird is four inches and a half long, and seven

and a half broad; the front and upper part of the head, is a fine verditer blue; the hind head and back, of the same colour, but not quite so brilliant; a few lateral streaks of black mark the upper part of the back; wings and tail, black, edged with sky blue; the three secondaries next the body, edged with white, and the first and second row of coverts also tipped with white; tail-coverts, large, black, and broadly tipped with blue; lesser wing-coverts, black, also broadly tipped with blue, so as to appear nearly wholly of that tint; sides of the breast, spotted or streaked with blue; belly, chin, and throat, pure white; the tail is forked, the five lateral feathers on each side with each a spot of white; the two middle more slightly marked with the same; from the eye backwards extends a line of dusky blue; before and behind the eye, a line of white; bill, dusky above, light blue below; legs and feet, light blue.

113. *SYLVIA TRICHAS*, LATH. — *SYLVIA MARYLANDICA*, WILSON.

MARYLAND YELLOW-THROAT.

WILSON, PLATE VI. FIG. 1. — MALE.

THIS is one of the humble inhabitants of briers, brambles, alder-bushes, and such shrubbery as grow most luxuriantly in low, watery situations; and might with propriety be denominated *humility*, its business or ambition seldom leading it higher than the tops of the underwood. Insects and their larvæ are its usual food. It dives into the deepest of the thicket, rambles among the roots, searches round the stems, examines both sides of the leaf, raising itself on its legs, so as to peep into every crevice; amusing itself at times with a very simple, and not disagreeable, song or twitter, *whitititee, whitititee, whitititee*; pausing for half a minute or so, and then repeating its notes as before. It inhabits the whole United States from Maine to Florida, and also Louisiana; and is particularly numerous in the low, swampy thickets of Maryland, Pennsylvania and New Jersey. It is by no means shy; but

seems deliberate and unsuspecting, as if the places it frequented, or its own diminutiveness, were its sufficient security. It often visits the fields of growing rye, wheat, barley, &c. and no doubt performs the part of a friend to the farmer, in ridding the stalks of vermin, that might otherwise lay waste his fields. It seldom approaches the farm house, or city; but lives in obscurity and peace, amidst its favourite thickets. It arrives in Pennsylvania about the middle, or last week, of April, and begins to build its nest about the middle of May: this is fixed on the ground, among the dried leaves, in the very depth of a thicket of briars, arched over, and a small hole left for entrance; the eggs are five, white, with touches of reddish brown. The young leave the nest about the 22d of June; and a second brood is often raised in the same season. Early in September they leave us, returning to the south.

This pretty little species is four inches and three quarters long, and six inches and a quarter in extent; back, wings, and tail, green olive, which also covers the upper part of the neck, but approaches to cinereous on the crown; the eyes are inserted in a band of black, which passes from the front, on both sides, reaching half way down the neck; this is bounded above by another band of white, deepening into light blue; throat, breast, and vent, brilliant yellow; belly, a fainter tinge of the same colour; inside coverts of the wings, also yellow; tips and inner vanes of the wings, dusky brown; tail, cuneiform, dusky, edged with olive green; bill, black, straight, slender, of the true *motacilla* form, though the bird itself was considered as a species of thrush by Linnæus; but very properly removed to the genus *motacilla* by Gmelin; legs, flesh coloured; iris of the eye, dark hazel. The female wants the black band through the eye, has the bill brown, and the throat of a much paler yellow.

114. *SYLVIA TRICHAS*, LATH. — *SYLVIA MARYLANDICA*, WILSON.

MARYLAND YELLOW-THROAT.

WILSON, PLATE XVIII. FIG. IV. — FEMALE.

THE male of this species having been described in the preceding article, accompanied by a particular detail of its manners, I have little farther to add here relative to this bird. I found several of them round Wilmington, North Carolina, in the month of January, along the margin of the river, and by the Cypress Swamp, on the opposite side. The individual from which the description was taken, was the actual nurse of a young cow-pen bunting, in the act of feeding which I took a drawing of it.

It is five inches long, and seven in extent; the whole upper parts, green olive; something brownish on the neck, tips of the wings, and head; the lower parts, yellow, brightest on the throat and vent; legs, flesh coloured. The chief difference between this and the male, in the markings of their plumage, is, that the female is destitute of the black bar through the eyes, and the bordering one of pale bluish white.

115. *SYLVIA WILSONII*, BONAP. — *MUSCICAPA PUSILLA*, WILSON.

GREEN BLACK-CAPT FLYCATCHER.

WILSON, PLATE XXVI. FIG. IV.

THIS neat and active little species I have never met with in the works of any European naturalist. It is an inhabitant of the swamps of the southern States, and has been several times seen in the lower parts of the States of New Jersey and Delaware. Amidst almost unapproachable thickets of deep morasses it commonly spends its time, during summer, and has a sharp squeaking note, nowise musical. It leaves the southern States early in October.

This species is four inches and a half long, and six and a half in extent; front line over the eye, and whole lower parts, yellow, brightest over the eye, and duller on the cheeks, belly, and vent, where it is tinged with olive; upper parts, olive green; wings and tail, dusky brown, the former very short; legs and bill, flesh coloured; crown, covered with a patch of deep black; iris of the eye, hazel.

The female is without the black crown, having that part of a dull yellow olive, and is frequently mistaken for a distinct species.

116. *SYLVIA TIGRINA*, LATHAM. — *SYLVIA MONTANA*, WILSON.

BLUE MOUNTAIN WARBLER.

WILSON, PLATE XLIV. FIG. II. — MALE.

THIS new species was first discovered near that celebrated ridge, or range of mountains, with whose name I have honoured it. Several of these solitary warblers remain yet to be gleaned up from the airy heights of our alpine scenery, as well as from the recesses of our swamps and morasses, whither it is my design to pursue them by every opportunity. Some of these, I believe, rarely or never visit the lower cultivated parts of the country; but seem only at home among the glooms and silence of those dreary solitudes. The present species seems of that family, or subdivision of the warblers, that approach the flycatcher, darting after flies wherever they see them, and also searching with great activity among the leaves. Its song was a feeble screech, three or four times repeated.

This species is four inches and three quarters in length; the upper parts, a rich yellow olive; front, cheeks, and chin, yellow, also the sides of the neck; breast and belly, pale yellow, streaked with black or dusky; vent, plain pale yellow; wings, black; first and second row of coverts, broadly tipped with pale yellowish white; tertials the same; the rest of the quills edged with whitish; tail, black, handsomely rounded, edged

with pale olive; the two exterior feathers, on each side, white on the inner vanes from the middle to the tips, and edged on the outer side with white; bill, dark brown; legs and feet, purple brown; soles, yellow; eye, dark hazel.

This was a male. The female I have never seen.

117. *SYLVIA PARUS*, WILSON. — HEMLOCK WARBLER.

WILSON, PLATE XLIV. FIG. III. — MALE.

THIS is another nondescript, first met with in the Great Pine swamp, Pennsylvania. From observing it almost always among the branches of the hemlock trees, I have designated it by that appellation, the markings of its plumage not affording me a peculiarity sufficient for a specific name. It is a most lively and active little bird, climbing among the twigs, and hanging like a titmouse on the branches; but possessing all the external characters of the warblers. It has a few low and very sweet notes, at which times it stops and repeats them for a short time, then darts about as before. It shoots after flies to a considerable distance; often begins at the lower branches, and hunts with great regularity and admirable dexterity, upwards to the top, then flies off to the next tree, at the lower branches of which it commences hunting upwards as before.

This species is five inches and a half long; and eight inches in extent; bill, black above, pale below; upper parts of the plumage, black, thinly streaked with yellow olive; head above, yellow, dotted with black; line from the nostril over the eye, sides of the neck, and whole breast, rich yellow; belly, paler, streaked with dusky; round the breast, some small streaks of blackish; wing, black, the greater coverts and next superior row, broadly tipped with white, forming two broad bars across the wing; primaries, edged with olive, tertials, with white; tail-coverts, black, tipped with olive;

tail, slightly forked, black, and edged with olive; the three exterior feathers altogether white on their inner vanes; legs and feet, dirty yellow; eye, dark hazel; a few bristles at the mouth; bill not notched.

This was a male. Of the female I can at present give no account.

118. *SYLVIA STRIATA*, LATHAM AND WILSON.

BLACK-POLL WARBLER.

WILSON, PLATE XXX. FIG. III. — MALE.

THIS species has considerable affinity to the flycatchers in its habits. It is chiefly confined to the woods, and even there, to the tops of the tallest trees, where it is descried skipping from branch to branch, in pursuit of winged insects. Its note is a single screech, scarcely audible from below. It arrives in Pennsylvania about the 20th of April, and is first seen on the tops of the highest maples, darting about among the blossoms. As the woods thicken with leaves, it may be found pretty generally, being none of the least numerous of our summer birds. It is, however, most partial to woods in the immediate neighbourhood of creeks, swamps, or morasses, probably from the greater number of its favourite insects frequenting such places. It is also pretty generally diffused over the United States, having myself met with it in most quarters of the Union; though its nest has hitherto defied all my researches.

This bird may be considered as occupying an intermediate station between the flycatchers and the warblers, having the manners of the former, and the bill, partially, of the latter. The nice gradations by which nature passes from one species to another, even in this department of the great chain of beings, will for ever baffle all the artificial rules and systems of man. And this truth every fresh discovery must impress more forcibly on the mind of the observing naturalist. These birds leave us early in September.

The black-poll warbler is five and a half inches long,

and eight and a half in extent; crown and hind head, black; cheeks, pure white; from each lower mandible runs a streak of small black spots, those on the side larger; the rest of the lower parts, white; primaries, black, edged with yellow; rest of the wing, black, edged with ash; the first and second row of coverts, broadly tipped with white; back, ash, tinged with yellow ochre, and streaked laterally with black; tail, black, edged with ash, the three exterior feathers, marked on the inner webs with white; bill, black above, whitish below, furnished with bristles at the base; iris, hazel; legs and feet, reddish yellow.

The female differs very little in plumage from the male.

119. *SYLVIA STRIATA*, LATHAM AND WILSON.

BLACK-POLL WARBLER.

WILSON, PLATE LIV. FIG. IV. — FEMALE.

THIS bird was shot in the same excursion with the Cape May warbler described at page 133, and is introduced here for the purpose of preventing future collectors, into whose hands specimens of it may chance to fall, from considering it as another and a distinct species. It doubtless breeds both here and in New Jersey, having myself found it in both places during the summer. From its habit of keeping on the highest branches of trees, it probably builds in such situations, and its nest may long remain unknown to us.

Pennant, who describes this species, says that it inhabits during summer Newfoundland and New York, and is called in the last *sailor*. This name, for which, however, no reason is given, must be very local, as the bird itself is one of those silent, shy, and solitary individuals, that seek the deep retreats of the forest, and are known to few or none but the naturalist.

Length of the female black-cap, five inches and a quarter, extent, eight and a quarter; bill, brownish black; crown, yellow olive, streaked with black; back,

the same, mixed with some pale slate; wings, dusky brown, edged with olive; first and second wing-coverts, tipped with white; tertials, edged with yellowish white; tail-coverts, pale gray; tail, dusky, forked, the two exterior feathers marked on their inner vanes with a spot of white; round the eye is a whitish ring; cheeks and sides of the breast, tinged with yellow, and slightly spotted with black; chin, white, as are also the belly and vent; legs and feet, dirty orange.

The young bird of the first season, and the female, as is usually the case, are very much alike in plumage. On their arrival early in April, the black feathers on the crown are frequently seen coming out, intermixed with the former ash coloured ones.

This species has all the agility and many of the habits of the flycatcher.

120. *SYLVIA FORMOSA*, WILSON. — KENTUCKY WARBLER.

WILSON, PLATE XXV. FIG. III.

THIS new and beautiful species inhabits the country whose name it bears. It is also found generally in all the intermediate tracts between Nashville and New Orleans, and below that as far as the Balize, or mouths of the Mississippi; where I heard it several times, twittering among the high rank grass and low bushes of those solitary and desolate looking morasses. In Kentucky and Tennessee it is particularly numerous, frequenting low, damp woods, and builds its nest in the middle of a thick tuft of rank grass, sometimes in the fork of a low bush, and sometimes on the ground; in all of which situations I have found it. The materials are loose dry grass, mixed with the light pith of weeds, and lined with hair. The female lays four, and sometimes six eggs, pure white, sprinkled with specks of reddish. I observed her sitting early in May. This species is seldom seen among the high branches; but loves to frequent low bushes and cane swamps, and is an active sprightly bird. Its notes are loud, and in

threes, resembling *tweedle, tweedle, tweedle*. It appears in Kentucky from the south about the middle of April; and leaves the territory of New Orleans on the approach of cold weather; at least I was assured that it does not remain there during the winter. It appeared to me to be a restless, fighting species; almost always engaged in pursuing some of its fellows; though this might have been occasioned by its numbers, and the particular season of spring, when love and jealousy rage with violence in the breasts of the feathered tenants of the grove; who experience all the ardency of those passions no less than their lord and sovereign man.

The Kentucky warbler is five inches and a half long, and eight inches in extent; the upper parts are an olive green; line over the eye and partly under it, and whole lower parts, rich brilliant yellow; head slightly crested, the crown deep black, towards the hind part spotted with light ash; lores, and spot curving down the neck, also black; tail nearly even at the end, and of a rich olive green; interior vanes of that and the wings, dusky; legs, an almost transparent pale flesh colour.

The female wants the black under the eye, and the greater part of that on the crown, having those parts yellowish. This bird is very abundant in the moist woods along the Tennessee and Cumberland rivers.

121. *SYLVIA MINUTA*, WILSON. — *SYLVIA DISCOLOR*, VIEILL.

PRAIRIE WARBLER.

WILSON, PLATE XXV. FIG. IV.

THIS pretty little species I first discovered in that singular tract of country in Kentucky, commonly called the Barrens. I shot several afterwards in the open woods of the Chactaw nation, where they were more numerous. They seem to prefer these open plains, and thinly wooded tracts; and have this singularity in their manners, that they are not easily alarmed; and search among the leaves the most leisurely of any of the tribe

I have yet met with ; seeming to examine every blade of grass, and every leaf ; uttering at short intervals a feeble *chirr*. I have observed one of these birds to sit on the lower branch of a tree for half an hour at a time, and allow me to come up nearly to the foot of the tree, without seeming to be in the least disturbed, or to discontinue the regularity of its occasional note. In activity it is the reverse of the preceding species ; and is rather a scarce bird in the countries where I found it. Its food consists principally of small caterpillars and winged insects.

The prairie warbler is four inches and a half long, and six inches and a half in extent ; the upper parts are olive, spotted on the back with reddish chestnut ; from the nostril over and under the eye, yellow ; lores, black ; a broad streak of black also passes beneath the yellow under the eye ; small pointed spots of black reach from a little below that along the side of the neck and under the wings ; throat, breast, and belly, rich yellow ; vent, cream coloured, tinged with yellow ; wings, dark dusky olive ; primaries and greater coverts, edged and tipped with pale yellow ; second row of coverts, wholly yellow ; lesser, olive ; tail, deep brownish black, lighter on the edges, the three exterior feathers broadly spotted with white.

The female is destitute of the black mark under the eye ; has a few slight touches of blackish along the sides of the neck ; and some faint shades of brownish red on the back.

The nest of this species is of very neat and delicate workmanship, being pensile, and generally hung on the fork of a low bush or thicket ; it is formed outwardly of green moss, intermixed with rotten bits of wood and caterpillar's silk ; the inside is lined with extremely fine fibres of grape-vine bark ; and the whole would scarcely weigh a quarter of an ounce. The eggs are white, with a few brown spots at the great end. These birds are migratory, departing for the south in October.

122. *SYLVIA RARA*, WILSON. — BLUE GREEN WARBLER.

WILSON, PLATE XXVII. FIG. II.

THIS new species, the only one of its sort I have yet met with, was shot on the banks of Cumberland river, about the beginning of April. Whether male or female I am uncertain. It is one of those birds that usually glean among the high branches of the tallest trees, which render it difficult to be procured. It was darting about with great nimbleness among the leaves, and appeared to have many of the habits of the flycatcher. After several ineffectual excursions in search of another of the same kind, with which I might compare the present, I am obliged to introduce it with this brief account.

The specimen has been deposited in Mr Peale's museum.

The blue green warbler is four inches and a half long, and seven and a half in extent; the upper parts are verditer, tinged with pale green, brightest on the front and forehead; lores, line over the eye, throat, and whole lower parts, very pale cream; cheeks, slightly tinged with greenish; bill and legs, bright light blue, except the upper mandible, which is dusky; tail, forked, and, as well as the wings, brownish black; the former marked on the three exterior vanes with white and edged with greenish; the latter having the first and second row of coverts tipped with white. Note, a feeble chirp.

123. *SYLVIA PINUS*, WILSON AND LATHAM.

PINE-CREEPING WARBLER.

WILSON, PLATE XIX. FIG. IV.

THIS species inhabits the pine woods of the Southern States, where it is resident, and where I first observed it, running along the bark of the pines; sometimes alighting, and feeding on the ground, and almost always,

when disturbed, flying up, and clinging to the trunks of the trees. As I advanced towards the south, it became more numerous. Its note is a simple reiterated chirrup, continued for four or five seconds.

Catesby first figured and described this bird; but so imperfectly, as to produce among succeeding writers great confusion, and many mistakes as to what particular bird was intended. Edwards has supposed it to be the blue winged yellow warbler! Latham has supposed another species to be meant; and the worthy Mr Pennant has been led into the same mistakes; describing the male of one species, and the female of another, as the male and female pine-creeper. Having shot and examined great numbers of these birds, I am enabled to clear up these difficulties by the following descriptions, which will be found to be correct.

The pine-creeper warbler is five and a half inches long, and nine inches in extent; the whole upper parts are of a rich green olive, with a considerable tinge of yellow; throat, sides, and breast, yellow; wings and tail, brown, with a slight cast of bluish, the former marked with two bars of white, slightly tinged with yellow; tail, forked, and edged with ash; the three exterior feathers, marked near the tip with a broad spot of white; middle of the belly and vent-feathers white. The female is brown, tinged with olive green on the back; breast, dirty white, or slightly yellowish. The bill in both is truly that of a warbler; and the tongue, slender, as in the *motacilla* genus, notwithstanding the habits of the bird.

The food of these birds is the seeds of the pitch pine, and various kinds of bugs. The nest, according to Mr Abbot, is suspended from the horizontal fork of a branch, and formed outwardly of slips of grape-vine bark, rotten wood, and caterpillar's webs, with sometimes pieces of hornet's nests interwoven; and is lined with dry pine leaves, and fine roots of plants. The eggs are four, white, with a few dark brown spots at the great end.

These birds, associating in flocks of twenty or thirty

individuals, are found in the depth of the pine Barrens; and are easily known by their manner of rising from the ground, and alighting on the body of the tree. They also often glean among the topmost boughs of the pine trees, hanging, head downwards, like the titmouse.

124. *SYLVIA CÆRULEA*, LATH. — *MUSCICAPA CÆRULEA*, WILS.

SMALL BLUE GRAY FLYCATCHER.

WILSON, PLATE XVIII. FIG. V.

THIS diminutive species, but for the length of the tail, would rank next to our humming bird in magnitude. It is a very dexterous flycatcher, and has also something of the manners of the titmouse, with whom, in early spring, and fall, it frequently associates. It arrives in Pennsylvania, from the south, about the middle of April; and, about the beginning of May, builds its nest, which it generally fixes among the twigs of a tree, sometimes at the height of ten feet from the ground, sometimes fifty feet high, on the extremities of the tops of a high tree in the woods. This nest is formed of very slight and perishable materials, the husks of buds, stems of old leaves, withered blossoms of weeds, down from the stalks of fern, coated on the outside with gray lichen, and lined with a few horse hairs. Yet in this frail receptacle, which one would think scarcely sufficient to admit the body of the owner, and sustain even its weight, does the female cow bird venture to deposit her egg; and to the management of these pigmy nurses leaves the fate of her helpless young. The motions of this little bird are quick; he seems always on the look-out for insects; darts about from one part of the tree to another, with hanging wings and erected tail, making a feeble chirping, *tsee, tsee*, no louder than a mouse. Though so small in itself, it is ambitious of hunting on the highest branches, and is seldom seen among the humbler thickets. It remains with us until the 20th or 28th of September; after which we see no more of it till the succeeding spring.

I observed this bird near Savannah, in Georgia, early in March; but it does not winter even in the southern parts of that State.

The length of this species is four inches and a half; extent, six and a half; front, and line over the eye, black; bill, black, very slender, overhanging at the tip, notched, broad, and furnished with bristles at the base; the colour of the plumage above is a light bluish gray, bluest on the head, below, bluish white; tail, longer than the body, a little rounded, and black, except the exterior feathers, which are almost all white, and the next two also tipped with white; tail-coverts, black; wings, brownish black, some of the secondaries next the body edged with white; legs, extremely slender, about three-fourths of an inch long, and of a bluish black colour. The female is distinguished by wanting the black line round the front.

The food of this bird is small winged insects, and their larvæ, but particularly the former, which it seems almost always in pursuit of.

125. *SYLVIA VARIA*, LATHAM. — *CERTHIA MACULATA*, WILSON.

BLACK AND WHITE CREEPER.

WILSON, PLATE XIX. FIG. III.

THIS nimble and expert little species seldom perches on the small twigs; but circumambulates the trunk and larger branches, in quest of ants and other insects, with admirable dexterity. It arrives in Pennsylvania, from the south, about the 20th of April; the young begin to fly early in July; and the whole tribe abandon the country about the beginning of October. Sloane describes this bird as an inhabitant of the West India islands, where it probably winters. It was first figured by Edwards from a dried skin sent him by Mr William Bartram, who gave it its present name.

The genus of creepers comprehends about thirty different species, many of which are richly adorned with gorgeous plumage; but, like their congenial tribe,

the woodpeckers, few of them excel in song; their tongues seem better calculated for extracting noxious insects from the bark of trees, than for trilling out sprightly airs; as the hardened hands of the husbandman are better suited for clearing the forest or guiding the plough, than dancing among the keys of a forte-piano. Which of the two is the most honourable and useful employment is not difficult to determine. Let the farmer, therefore, respect this little bird for its useful qualities, in clearing his fruit and forest trees from destructive insects, though it cannot serenade him with its song.

The length of this species is five inches and a half; extent, seven and a half; crown, white, bordered on each side with a band of black, which is again bounded by a line of white passing over each eye; below this is a large spot of black covering the ear feathers; chin and throat, black; wings, the same, crossed transversely by two bars of white; breast and back, streaked with black and white; tail, upper, and also under coverts, black, edged, and bordered with white; belly, white; legs and feet, dirty yellow; hind claw the longest, and all very sharp pointed; bill, a little compressed side-wise, slightly curved, black above, paler below; tongue, long, fine pointed, and horny at the extremity. These last circumstances, joined to its manners, characterize it, decisively, as a creeper.

The female, and young birds of the first year, want the black on the throat, having that part of a grayish white.

126. *SYLVIA PETECHIA*, LATHAM AND WILSON.

YELLOW RED-POLL WABLER.

WILSON, PLATE XXVIII. FIG. IV. — ADULT MALE IN SPRING.

THIS delicate little bird arrives in Pennsylvania early in April, while the maples are yet in blossom, among the branches of which it may generally be found at that season, feeding on the stamina of the flowers, and

on small winged insects. Low swampy thickets are its favourite places of resort. It is not numerous, and its notes are undeserving the name of song. It remains with us all summer; but its nest has hitherto escaped me. It leaves us late in September. Some of them probably winter in Georgia, having myself shot several late in February, on the borders of the Savannah river.

Length of the yellow red-poll, five inches; extent, eight; line over the eye, and whole lower parts, rich yellow; breast, streaked with dull red; upper part of the head, reddish chestnut, which it loses in winter; back, yellow olive, streaked with dusky; rump, and tail-coverts, greenish yellow; wings, deep blackish brown, exteriorly edged with olive; tail, slightly forked, and of the same colour as the wings.

The female wants the red cap; and the yellow of the lower parts is less brilliant; the streaks of red on the breast are also fewer and less distinct.

127. *SYLVIA PUSILLA*, WILSON. — *S. AMERICANA*, LATHAM.

BLUE YELLOW-BACK WARBLER.

WILSON, PLATE XXXVIII. FIG. III.

THE habits of this bird partake something of the titmouse; but the form of its bill is decisively that of the *sylvia* genus. It is remarkable for frequenting the tops of the tallest trees, where it feeds on the small winged insects and caterpillars that infest the young leaves and blossoms. It has a few feeble chirruping notes, scarcely loud enough to be heard at the foot of the tree. It visits Pennsylvania from the south, early in May; is very abundant in the woods of Kentucky; and is also found in the northern parts of the State of New York. Its nest I have never yet met with.

This little species is four inches and a half long, and six inches and a half in breadth; the front, and between the bill and eyes, is black; the upper part of the head and neck, a fine Prussian blue; upper part of the back, brownish yellow; lower, and rump, pale blue; wings

and tail, black; the former crossed with two bars of white, and edged with blue; the latter marked on the inner webs of the three exterior feathers with white, a circumstance common to a great number of the genus; immediately above and below the eye, is a small touch of white; the upper mandible is black; the lower, as well as the whole throat and breast, rich yellow, deepening about its middle to orange red, and marked on the throat with a small crescent of black; on the edge of the breast is a slight touch of rufous; belly and vent, white; legs, dark brown; feet, dirty yellow. The female wants both the black and orange on the throat and breast; the blue, on the upper parts, is also of a duller tint.

128. *SYLVIA AGILIS*, WILSON. — CONNECTICUT WARBLER.

WILSON, PLATE XXXIX. FIG. IV.

THIS is a new species, first discovered in the state of Connecticut, and twice since met with in the neighbourhood of Philadelphia. As to its notes or nest, I am altogether unacquainted with them. The different specimens I have shot corresponded very nearly in their markings; two of these were males, and the other undetermined, but conjectured also to be a male. It was found in every case among low thickets, but seemed more than commonly active, not remaining for a moment in the same position. In some of my future rambles I may learn more of this solitary species.

Length, five inches and three quarters; extent, eight inches; whole upper parts, a rich yellow olive; wings, dusky brown, edged with olive; throat, dirty white, or pale ash; upper part of the breast, dull greenish yellow; rest of the lower parts, a pure rich yellow; legs, long, slender, and of a pale flesh colour; round the eye, a narrow ring of yellowish white; upper mandible, pale brown; lower, whitish; eye, dark hazel.

Since writing the above, I have shot two specimens of a bird which, in every particular, agrees with the

above, except in having the throat of a dull buff colour, instead of pale ash; both of these were females; and I have little doubt, but they are of the same species with the present, as their peculiar activity seemed exactly similar to the males above described.

These birds do not breed in the lower parts of Pennsylvania, though they probably may be found in summer in the alpine swamps and northern regions, in company with a numerous class of the same tribe that breed in these unfrequented solitudes.

129. *SYLVIA PUSILLA*, WILSON. — *SYLVIA SPHAGNOSA*, BONAP.

PINE SWAMP WARBLER.

WILSON, PLATE XLIII. FIG. IV.

THIS little bird is, for the first time, described. Its favourite haunts are in the deepest and gloomiest pine and hemlock swamps of our mountainous regions, where every tree, trunk, and fallen log, is covered with a luxuriant coat of moss, that even mantles over the surface of the ground, and prevents the sportsman from avoiding a thousand holes, springs, and swamps, into which he is incessantly plunged. Of the nest of this bird I am unable to speak. I found it associated with the Blackburnian warbler, the golden-crested wren, ruby-crowned wren, yellow-rump, and others of that description, in such places as I have described, about the middle of May. It seemed as active in flycatching as in searching for other insects, darting nimbly about among the branches, and flirting its wings; but I could not perceive that it had either note or song. I shot three, one male and two females. I have no doubt that they breed in those solitary swamps, as well as many other of their associates.

The pine swamp warbler is four inches and a quarter long, and seven inches and a quarter in extent; bill, black, not notched, but furnished with bristles; upper parts, a deep green olive, with slight bluish reflections, particularly on the edges of the tail and on the head; wings, dusky, but so broadly edged with olive green as

to appear wholly of that tint; immediately below the primary coverts, there is a single triangular spot of yellowish white; no other part of the wings is white; the three exterior tail-feathers, with a spot of white on their inner vanes; the tail is slightly forked; from the nostrils over the eye, extends a fine line of white, and the lower eyelid is touched with the same tint; lores, blackish; sides of the neck and auriculars, green olive; whole lower parts, pale yellow ochre, with a tinge of greenish; duskiest on the throat; legs, long and flesh coloured.

The plumage of the female differs in nothing from that of the male.

130. *SYLVIA AUTUMNALIS*, WILSON. — AUTUMNAL WARBLER.

WILSON, PLATE XXIII. FIG. IV.

THIS plain little species regularly visits Pennsylvania from the north in the month of October, gleaning among the willow leaves; but, what is singular, is rarely seen in spring. From the 1st to the 15th of October, they may be seen in considerable numbers, almost every day, in gardens, particularly among the branches of the weeping willow, and seem exceedingly industrious. They have some resemblance, in colour, to the pine-creeping warbler; but do not run along the trunk like that bird, neither do they give a preference to the pines. They are also less. After the first of November, they are no longer to be found, unless the season be uncommonly mild. These birds, doubtless, pass through Pennsylvania in spring, on their way to the north; but either make a very hasty journey, or frequent the tops of the tallest trees, for I have never yet met with one of them in that season, though, in October, I have seen more than a hundred in an afternoon's excursion.

Length, four inches and three quarters; breadth, eight inches; whole upper parts, olive green, streaked on the back with dusky stripes; tail-coverts, ash, tipped with olive; tail, black, edged with dull white; the

three exterior feathers, marked near the tip with white; wings, deep dusky, edged with olive, and crossed with two bars of white; primaries also tipped, and three secondaries next the body edged, with white; upper mandible, dusky brown; lower, as well as the chin and breast, dull yellow; belly and vent, white; legs, dusky brown; feet and claws, yellow; a pale yellow ring surrounds the eye. The males of these birds often warble out some low, but very sweet notes, while searching among the leaves in autumn.

131. *SYLPIA MINUTA*, BONAPARTE. — *MUSCICAPA MINUTA*, WILS.

SMALL-HEADED FLYCATCHER.

WILSON, PLATE L. FIG. V.

THIS very rare species is the only one I have met with. It was shot on the 24th of April, in an orchard, and was remarkably active, running, climbing, and darting about among the opening buds and blossoms with extraordinary agility. From what quarter of the United States or of North America it is a wanderer, I am unable to determine, having never before met with an individual of the species. Its notes and manner of breeding are also alike unknown to me. This was a male: it measured five inches long, and eight and a quarter in extent; the upper parts were dull yellow olive; the wings, dusky brown, edged with lighter; the greater and lesser coverts, tipped with white; the lower parts, dirty white, stained with dull yellow, particularly on the upper parts of the breast; the tail, dusky brown, the two exterior feathers marked, like those of many others, with a spot of white on the inner vanes; head, remarkably small; bill, broad at the base, furnished with bristles, and notched near the tip; legs, dark brown; feet, yellowish; eye, dark hazel.

Since writing the above, I have shot several individuals of this species in various quarters of New Jersey, particularly in swamps. They all appear to be nearly alike in plumage. Having found them there in June, there is no doubt of their breeding in that State, and,

probably, in such situations far to the southward; for many of the southern summer birds that rarely visit Pennsylvania, are yet common to the swamps and pine woods of New Jersey. Similarity of soil and situation, of plants and trees, and, consequently, of fruits, seeds, insects, &c. are, doubtless, their inducements. The summer red bird, great Carolina wren, pine-creeping warbler, and many others, are rarely seen in Pennsylvania, or to the northward, though they are common in many parts of West Jersey.

SUBGENUS II. — *DACNIS*, CUV. (*CASSICUS*.)

132. *SYLVIA PROTONOTARIUS*, LATHAM AND WILSON.

PROTHONOTARY WARBLER.

WILSON, PLATE XXIV. FIG. III.

THIS is an inhabitant of Lower Louisiana, and a passenger from the south; it seldom approaches the house or garden, but keeps among the retired, deep, and dark swampy woods, through which it flits nimbly in search of small caterpillars, uttering every now and then a few screaming notes, scarcely worthy of notice. They are abundant in the Mississippi and New Orleans territories, near the river, but are rarely found on the high ridges inland.

From the peculiar form of its bill, being roundish and remarkably pointed, this bird might, with propriety, be classed as a subgenera, or separate family, including several others, viz. the blue-winged yellow warbler, the gold-crowned warbler, the golden-winged warbler, the worm-eating warbler, and a few more. The bills of all these correspond nearly in form and pointedness, being generally longer, thicker at the base, and more round than those of the genus *sylvia*, generally. The first mentioned species, in particular, greatly resembles this in its general appearance; but the bill of the prothonotary is rather stouter, and the yellow much deeper, extending farther on the back; its manners, and the country it inhabits, are also different.

This species is five inches and a half long, and eight and a half in extent; the head, neck, and whole lower parts, (except the vent,) are of a remarkably rich and brilliant yellow, slightly inclining to orange; vent, white; back, scapulars, and lesser wing-coverts, yellow olive; wings, rump, and tail-coverts, a lead blue; interior vanes of the former, black; tail nearly even, and black, broadly edged with blue; all the feathers, except the two middle ones, are marked on their inner vanes, near the tip, with a spot of white; bill, long, stout, sharp-pointed, and wholly black; eyes, dark hazel; legs and feet, a leaden grey. The female differs in having the yellow and blue rather of a duller tint; the inferiority, however, is scarcely noticeable.

133. *SYLVIA VERMIFORA*, LATHAM AND WILSON.

WORM-EATING WARBLER.

WILSON, PLATE XXIV. FIG. IV.

THIS is one of the nimblest species of its whole family, inhabiting the same country with the preceding, but extending its migrations much farther north. It arrives in Pennsylvania about the middle of May, and leaves us in September. I have never yet met with its nest, but have seen them feeding their young about the 25th of June. This bird is remarkably fond of spiders, darting about wherever there is a probability of finding these insects. If there be a branch broken, and the leaves withered, it shoots among them in preference to every other part of the tree, making a great rustling, in search of its prey. I have often watched its manœuvres while thus engaged, and flying from tree to tree in search of such places. On dissection, I have uniformly found their stomachs filled with spiders or caterpillars, or both. Its note is a feeble chirp, rarely uttered.

The worm-eater is five inches and a quarter in length, and eight inches in extent; back, tail, and wings, a fine clear olive; tips and inner vanes of the wing-quills,

a dusky brown; tail, slightly forked, yet the exterior feathers are somewhat shorter than the middle ones; head and whole lower parts, a dirty buff; the former marked with four streaks of black, one passing from each nostril, broadening as it descends the hind head; and one from the posterior angle of each eye; the bill is stout, straight, pretty thick at the base, roundish, and tapering to a fine point; no bristles at the side of the mouth; tongue, thin, and lacerated at the tip; the breast is most strongly tinged with the orange buff; vent, waved with dusky olive; bill, blackish above, flesh coloured below; legs and feet, a pale clay colour; eye, dark hazel. The female differs very little in colour from the male.

On this species Mr Pennant makes the following remarks:—"Does not appear in Pennsylvania till July, in its passage northward. Does not return the same way, but is supposed to go beyond the mountains which lie to the west. This seems to be the case with all the transient vernal visitants of Pennsylvania."* That a small bird should permit the whole spring, and half of the summer, to pass away before it thought of "passing to the north to breed," is a circumstance, one should think, would have excited the suspicion of so discerning a naturalist as the author of *Arctic Zoology*, as to its truth. I do not know that this bird breeds to the northward of the United States. As to their returning home by "the country beyond the mountains," this must, doubtless, be for the purpose of finishing the education of their striplings here, as is done in Europe, by making the grand tour. This, by the by, would be a much more convenient retrograde route for the ducks and geese; as, like the Kentuckians, they could take advantage of the current of the Ohio and Mississippi, to float down to the southward. Unfortunately, however, for this pretty theory, all our vernal visitants with which I am acquainted, are contented to plod home by the same regions through which they advanced, not even excepting the geese.

* *Arctic Zoology*, p. 406.

134. *SYLVIA SOLITARIA*, WILSON.

BLUE-WINGED YELLOW WARBLER.

WILSON, PLATE XV. FIG. IV.

THIS bird has been mistaken for the pine creeper of Catesby. It is a very different species. It comes to us early in May from the south; haunts thickets and shrubberies, searching the branches for insects; is fond of visiting gardens, orchards, and willow trees, of gleaning among blossoms, and currant bushes; and is frequently found in very sequestered woods, where it generally builds its nest. This is fixed in a thick bunch or tussock of long grass, sometimes sheltered by a brier bush. It is built in the form of an inverted cone, or funnel, the bottom thickly bedded with dry beech leaves, the sides formed of the dry bark of strong weeds, lined within with fine dry grass. These materials are not placed in the usual manner, circularly, but shelving downwards on all sides from the top; the mouth being wide, the bottom very narrow, filled with leaves, and the eggs or young occupying the middle. The female lays five eggs, pure white, with a few very faint dots of reddish near the great end; the young appear the first week in June. I am not certain whether they raise a second brood in the same season.

I have met with several of these nests, always in a retired, though open part of the woods, and very similar to each other.

The first specimen of this bird taken notice of by European writers was transmitted, with many others, by Mr William Bartram to Mr Edwards, by whom it was drawn and etched in the 277th plate of his *Ornithology*. In his remarks on this bird, he seems at a loss to determine whether it is not the pine creeper of Catesby; * a difficulty occasioned by the very imperfect colouring and figure of Catesby's bird. The pine creeper,

* CATESBY, *Car.* vol. i, pl. 61.

however, is a much larger bird; is of a dark yellow olive above, and orange yellow below; has all the habits of a creeper, alighting on the trunks of the pine trees, running nimbly round them, and, according to Mr Abbot, builds a pensile nest. I observed thousands of them in the pine woods of Carolina and Georgia, where they are resident, but have never met with them in any part of Pennsylvania.

This species is five inches and a half long, and seven and a half broad; hind head, and whole back, a rich green olive; crown and front, orange yellow; whole lower parts, yellow, except the vent feathers, which are white; bill, black above, lighter below; lores, black; the form of the bill approximates a little to that of the finch; wings and tail, deep brown, broadly edged with pale slate, which makes them appear wholly of that tint, except at the tips; first and second row of coverts tipt with white slightly stained with yellow; the three exterior tail feathers have their inner vanes nearly all white; legs, pale bluish; feet, dirty yellow; the two middle tail feathers are pale slate. The female differs very little in colour from the male.

This species very much resembles the prothonotary warbler of Pennant and Buffon; the only difference I can perceive, on comparing specimens of each, is, that the yellow of the prothonotary is more of an orange tint, and the bird somewhat larger.

135. *SYLVIA CHRYSOPTERA*, LATHAM AND WILSON.

GOLDEN-WINGED WARBLER.

WILSON, PLATE XV. FIG. VI. — MALE.

THIS is a spring passenger through the United States to the north. From the particular form of its bill, it ought rather to be separated from the warblers; or, along with several others of the same kind, might be arranged as a subgenera, or particular family of that tribe, which might with propriety be called worm-eaters, the *motacilla vermivora* of Turton having the bill

exactly of this form. The habits of these birds partake a good deal of those of the titmouse; and, in their language and action, they very much resemble them. All that can be said of this species is, that it appears in Pennsylvania for a few days, about the last of April or beginning of May, darting actively among the young leaves and opening buds, and is rather a scarce species.

The golden-winged warbler is five inches long, and seven broad; the crown, golden yellow; the first and second row of wing-coverts, of the same rich yellow; the rest of the upper parts, a deep ash, or dark slate colour; tail, slightly forked, and, as well as the wings, edged with whitish; a black band passes through the eye, and is separated from the yellow of the crown by a fine line of white; chin and throat, black, between which and that passing through the eye runs a strip of white; belly and vent, white; bill, black, gradually tapering to a sharp point; legs, dark ash; irides, hazel.

Pennant has described this species twice, first, as the golden-winged warbler, and, immediately after, as the yellow-fronted warbler.

136. *SYLVIA PEREGRINA*, WILSON. — TENNESEE WARBLER.

WILSON, PLATE XXV. FIG. II.

THIS plain little bird has hitherto remained unknown. I first found it on the banks of Cumberland river, in the State of Tennessee, and suppose it to be rare, having since met with only two individuals of the same species. It was hunting nimbly among the young leaves, and, like all the rest of the family of worm-eaters, to which, by its bill, it evidently belongs, seemed to partake a good deal of the habits of the titmouse. Its notes were few and weak; and its stomach, on dissection, contained small green caterpillars, and a few winged insects.

As this species is so very rare in the United States, it is most probably a native of a more southerly climate, where it may be equally numerous with any of the rest of its genus. The small cerulean warbler, which, in

Pennsylvania, and almost all over the Atlantic States, is extremely rare, I found the most numerous of its tribe in Tennessee and West Florida; and the Carolina wren, which is also scarce to the northward of Maryland, is abundant through the whole extent of country from Pittsburg to New Orleans.

Particular species of birds, like different nations of men, have their congenial climes and favourite countries; but wanderers are common to both; some in search of better fare, some of adventure, others led by curiosity, and many driven by storms and accident.

The Tennessee warbler is four inches and three quarters long, and eight inches in extent; the back, rump, and tail-coverts, are of a rich yellow olive; lesser wing-coverts, the same; wings, deep dusky, edged broadly with yellow olive; tail, forked, olive, relieved with dusky; cheeks and upper part of the head, inclining to light bluish, and tinged with olive; line from the nostrils over the eye, pale yellow, fading into white; throat and breast, pale cream colour; belly and vent, white; legs, purplish brown; bill, pointed, and thicker at the base than those of the *sylvia* genus generally are; upper mandible, dark dusky, lower, somewhat paler; eye, hazel.

The female differs little, in the colour of her plumage, from the male; the yellow line over the eye is more obscure, and the olive not of so rich a tint.

187. *SYLVIA RUBRICAPILLA*, WILSON. — NASHVILLE WARBLER.

WILSON, PLATE XXVII. FIG. III.

THE very uncommon notes of this little bird were familiar to me for several days before I succeeded in obtaining it. These notes very much resembled the breaking of small dry twigs, or the striking of small pebbles of different sizes smartly against each other for six or seven times, and loud enough to be heard at the distance of thirty or forty yards. It was some time before I could ascertain whether the sound proceeded from a bird or an insect. At length I discovered the bird,

and was not a little gratified at finding it an entire new and hitherto undescribed species. I was also fortunate enough to meet afterwards with two others exactly corresponding with the first, all of them being males. These were shot in the State of Tennessee, not far from Nashville. It had all the agility and active habits of its family, the worm-eaters.

The length of this species is four inches and a half, breadth, seven inches; the upper parts of the head and neck, light ash; a little inclining to olive; crown, spotted with deep chestnut in small touches; a pale yellowish ring round the eye; whole lower parts, vivid yellow, except the middle of the belly, which is white; back, yellow olive, slightly skirted with ash; rump and tail-coverts, rich yellow olive; wings, nearly black, broadly edged with olive; tail, slightly forked, and very dark olive; legs, ash; feet, dirty yellow; bill, tapering to a fine point, and dusky ash; no white on wings or tail; eye, hazel.

GENUS XXII.—*SAXICOLA*, BECHST.

138. *SAXICOLA SIALIS*, BONAPARTE.—*SYLVIA SIALIS*, WILSON.

BLUEBIRD.

WILSON, PL. III. FIG. III.—ADULT MALE.—EDINBURGH COLLEGE MUSEUM.

THE pleasing manners, and sociable disposition, of this little bird, entitle him to particular notice. As one of the first messengers of spring, bringing the charming tidings to our very doors, he bears his own recommendation always along with him, and meets with a hearty welcome from every body.

Though generally accounted a bird of passage, yet, so early as the middle of February, if the weather be open, he usually makes his appearance about his old haunts, the barn, orchard, and fence posts. Storms and deep snows sometimes succeeding, he disappears for a time; but about the middle of March is again seen, accompanied by his mate, visiting the box in the garden,

or the hole in the old apple tree, the cradle of some generations of his ancestors. "When he first begins his amours," says a curious and correct observer, "it is pleasing to behold his courtship, his solicitude to please and to secure the favour of his beloved female. He uses the tenderest expressions, sits close by her, caresses and sings to her his most endearing warblings. When seated together, if he espies an insect delicious to her taste, he takes it up, flies with it to her, spreads his wing over her, and puts it in her mouth."* If a rival makes his appearance, (for they are ardent in their loves,) he quits her in a moment, attacks and pursues the intruder as he shifts from place to place, in tones that bespeak the jealousy of his affection, conducts him, with many reproofs, beyond the extremities of his territory, and returns to warble out his transports of triumph beside his beloved mate. The preliminaries being thus settled, and the spot fixed on, they begin to clean out the old nest, and the rubbish of the former year, and to prepare for the reception of their future offspring. Soon after this, another sociable little pilgrim, (*motacilla domestica*, house wren,) also arrives from the south, and, finding such a snug berth pre-occupied, shews his spite, by watching a convenient opportunity, and, in the absence of the owner, popping in and pulling out sticks; but takes special care to make off as fast as possible.

The female lays five, and sometimes six eggs, of a pale blue colour; and raises two, and sometimes three brood in a season; the male taking the youngest under his particular care while the female is again sitting. Their principal food are insects, particularly large beetles, and other hard-shelled sorts, that lurk among old, dead, and decaying trees. Spiders are also a favourite repast with them. In the fall, they occasionally regale themselves on the berries of the sour gum; and, as winter approaches, on those of the red cedar, and on the fruit of a rough hairy vine that runs up and cleaves fast to the

* Letter from Mr William Bartram to the author.

trunks of trees. Ripe persimmons is another of their favourite dishes, and many other fruits and seeds which I have found in their stomachs at that season, which, being no botanist, I am unable to particularize. They are frequently pestered with a species of tape worm, some of which I have taken from their intestines of an extraordinary size, and, in some cases, in great numbers. Most other birds are also plagued with these vermin, but the bluebird seems more subject to them than any I know, except the woodcock. An account of the different species of vermin, many of which, I doubt not, are nondescripts, that infest the plumage and intestines of our birds, would of itself form an interesting publication; but, as this belongs more properly to the entomologist, I shall only, in the course of this work, take notice of some of the most remarkable.

The usual spring and summer song of the bluebird is a soft, agreeable, and oft-repeated warble, uttered with open quivering wings, and is extremely pleasing. In his motions and general character, he has great resemblance to the robin redbreast of Britain; and, had he the brown olive of that bird, instead of his own blue, could scarcely be distinguished from him. Like him, he is known to almost every child; and shews as much confidence in man by associating with him in summer, as the other by his familiarity in winter. He is also of a mild and peaceful disposition, seldom fighting or quarrelling with other birds. His society is courted by the inhabitants of the country, and few farmers neglect to provide for him, in some suitable place, a snug little summer-house, ready fitted and rent free. For this he more than sufficiently repays them by the cheerfulness of his song, and the multitude of injurious insects which he daily destroys. Towards fall, that is in the month of October, his song changes to a single plaintive note, as he passes over the yellow many-coloured woods; and its melancholy air recalls to our minds the approaching decay of the face of nature. Even after the trees are stript of their leaves, he still

lingers over his native fields, as if loth to leave them. About the middle or end of November, few or none of them are seen; but, with every return of mild and open weather, we hear his plaintive note amidst the fields, or in the air, seeming to deplore the devastations of winter. Indeed, he appears scarcely ever totally to forsake us; but to follow fair weather through all its journeyings till the return of spring.

Such are the mild and pleasing manners of the bluebird, and so universally is he esteemed, that I have often regretted that no pastoral muse has yet arisen in this western woody world, to do justice to his name, and endear him to us still more by the tenderness of verse, as has been done to his representative in Britain, the robin redbreast. A small acknowledgment of this kind I have to offer, which the reader, I hope, will excuse as a tribute to rural innocence.

When winter's cold tempests and snows are no more,
Green meadows and brown furrow'd fields re-appearing,
The fishermen hauling their shad to the shore,
And cloud-cleaving geese to the lakes are a-steering;
When first the lone butterfly flits on the wing,
When red glow the maples, so fresh and so pleasing,
O then comes the bluebird, the herald of spring!
And hails with his warblings the charms of the season.

Then loud piping frogs make the marshes to ring;
Then warm glows the sunshine, and fine is the weather;
The blue woodland flowers just beginning to spring,
And spicewood and sassafras budding together:
O then to your gardens ye housewives repair,
Your walks border up, sow and plant at your leisure;
The bluebird will chant from his box such an air,
That all your hard toils will seem truly a pleasure!

He flits through the orchard, he visits each tree,
The red flowering peach, and the apple's sweet blossoms;
He snaps up destroyers wherever they be,
And seizes the caitiffs that lurk in their bosoms;
He drags the vile grub from the corn it devours,
The worms from the webs, where they riot and welter;
His song and his services freely are ours,
And all that he asks is—in summer a shelter.

The ploughman is pleased when he gleans in his train,
Now searching the furrows—now mounting to cheer him ;
The gard'ner delights in his sweet, simple strain,
And leans on his spade to survey and to hear him ;
The slow ling'ring schoolboys forget they'll be chid,
While gazing intent as he warbles before them
In mantle of sky-blue, and bosom so red,
That each little loiterer seems to adore him.

When all the gay scenes of the summer are o'er,
And autumn slow enters so silent and sallow,
And millions of warblers, that charm'd us before,
Have fled in the train of the sun-seeking swallow ;
The bluebird, forsaken, yet true to his home,
Still lingers, and looks for a milder to-morrow,
Till forced by the horrors of winter to roam,
He sings his adieu in a lone note of sorrow.

While spring's lovely season, serene, dewy, warm,
The green face of earth, and the pure blue of heaven,
Or love's native music have influence to charm,
Or sympathy's glow to our feelings are given,
Still dear to each bosom the bluebird shall be ;
His voice, like the thrillings of hope, is a treasure ;
For, through bleakest storms, if a calm he but see,
He comes to remind us of sunshine and pleasure !

The bluebird, in summer and fall, is fond of frequenting open pasture fields ; and there perching on the stalks of the great mullein, to look out for passing insects. A whole family of them are often seen, thus situated, as if receiving lessons of dexterity from their more expert parents, who can espy a beetle crawling among the grass, at a considerable distance ; and, after feeding on it, instantly resume their former position. But whoever informed Dr Latham, that " this bird is never seen on trees, though it makes its nest in the holes of them ! " * might as well have said, that the Americans are never seen in the streets, though they build their houses by the sides of them. For what is there in the construction of the feet and claws of this bird to prevent it from perching ? Or what sight more common to an inhabitant of this country than the blue-

* *Synopsis*, vol. ii, p. 446—40.

bird perched on the top of a peach or apple tree ; or among the branches of those reverend broad-armed chestnut trees, that stand alone in the middle of our fields, bleached by the rains and blasts of ages ?

The bluebird is six inches and three quarters in length, the wings remarkably full and broad ; the whole upper parts are of a rich sky blue, with purple reflections ; the bill and legs are black ; inside of the mouth and soles of the feet, yellow, resembling the colour of a ripe persimmon ; the shafts of all the wing and tail-feathers are black ; throat, neck, breast, and sides, partially under the wings, chestnut ; wings, dusky black at the tips ; belly and vent, white ; sometimes the secondaries are exteriorly light brown, but the bird has in that case not arrived at his full colour. The female is easily distinguished by the duller cast of the back, the plumage of which is skirted with light brown, and by the red on the breast being much fainter, and not descending near so low as in the male ; the secondaries also more dusky. This species is found over the whole United States ; in the Bahama Islands, where many of them winter ; as also in Mexico, Brazil, and Guinea.

Mr Edwards mentions, that the specimen of this bird which he was favoured with, was sent from the Bermudas ; and, as these islands abound with the cedar, it is highly probable that many of those birds pass from our continent thither, at the commencement of winter, to enjoy the mildness of that climate as well as their favourite food.

As the bluebird is so regularly seen in winter, after the continuance of a few days of mild and open weather, it has given rise to various conjectures as to the place of his retreat. Some supposing it to be in close, sheltered thickets, lying to the sun ; others the neighbourhood of the sea, where the air is supposed to be more temperate, and where the matters thrown up by the waves furnish him with a constant and plentiful supply of food. Others trace him to the dark recesses of hollow trees, and subterraneous caverns, where they

suppose he dozes away the winter, making, like Robinson Crusoe, occasional reconnoitring excursions from his castle, whenever the weather happens to be favourable. But, amidst the snows and severities of winter, I have sought for him in vain in the most favourable sheltered situations of the middle States; and not only in the neighbourhood of the sea, but on both sides of the mountains.* I have never, indeed, explored the depths of caverns in search of him, because I would as soon expect to meet with tulips and butterflies there, as bluebirds; but, among hundreds of woodmen, who have cut down trees of all sorts, and at all seasons, I have never heard one instance of these birds being found so immured in winter; while, in the whole of the middle and eastern States, the same general observation seems to prevail that the bluebird always makes his appearance in winter after a few days of mild and open weather. On the other hand, I have been assured by different gentlemen of respectability, who have resided in the islands of Jamaica, Cuba, and the Bahamas and Bermudas, that this very bird is common there in winter. We also find, from the works of Hernandez, Piso, and others, that it is well known in Mexico, Guinea, and Brazil; and, if so, the place of its winter retreat is easily ascertained, without having recourse to all the trumpery of holes and caverns, torpidity, hybernation, and such ridiculous improbabilities.

Nothing is more common in Pennsylvania than to see large flocks of these birds, in spring and fall, passing at considerable heights in the air; from the south in the former, and from the north in the latter season. I have seen, in the month of October, about an hour after sunrise, ten or fifteen of them descend from a great height, and settle on the top of a tall detached tree, appearing, from their silence and sedateness, to be strangers, and fatigued. After a pause of a few minutes,

* I speak of the species here generally. Solitary individuals are found, particularly among our cedar trees, sometimes in the very depth of winter.

they began to dress and arrange their plumage, and continued so employed for ten or fifteen minutes more; then, on a few warning notes being given, perhaps by the leader of the party, the whole remounted to a vast height, steering in a direct line for the southwest. In passing along the chain of the Bahamas towards the West Indies, no great difficulty can occur, from the frequency of these islands; nor even to the Bermudas, which are said to be six hundred miles from the nearest part of the continent. This may seem an extraordinary flight for so small a bird; but it is nevertheless a fact that it is performed. If we suppose the bluebird in this case to fly only at the rate of a mile per minute, which is less than I have actually ascertained him to do over land, ten or eleven hours would be sufficient to accomplish the journey; besides the chances he would have of resting places by the way, from the number of vessels that generally navigate those seas. In like manner, two days at most, allowing for numerous stages for rest, would conduct him from the remotest regions of Mexico to any part of the Atlantic States. When the natural history of that part of the continent and its adjacent isles is better known, and the periods at which its birds of passage arrive and depart, are truly ascertained, I have no doubt but these suppositions will be fully corroborated.

GENUS XXIII. — *ANTHUS*, BECHST.

139. *ANTHUS SPINOLETTA*, BONAP. — *ALAUDA RUFA*, WILSON.

BROWN LARK.

WILSON, PLATE XLII. FIG. IV.

IN what particular district of the northern regions this bird breeds, I am unable to say. In Pennsylvania it first arrives from the north about the middle of October; flies in loose scattered flocks; is strongly attached to flat, newly plowed fields, commons, and such like situations; has a feeble note, characteristic of

its tribe; runs rapidly along the ground; and, when the flock takes to wing, they fly high, and generally to a considerable distance before they alight. Many of them continue in the neighbourhood of Philadelphia all winter, if the season be moderate. In the southern States, particularly in the lower parts of North and South Carolina, I found these larks in great abundance in the middle of February. Loose flocks of many hundreds were driving about from one corn field to another; and, in the low rice grounds, they were in great abundance. On opening numbers of these, they appeared to have been feeding on various small seeds with a large quantity of gravel. On the 8th of April I shot several of these birds in the neighbourhood of Lexington, Kentucky. In Pennsylvania they generally disappear, on their way to the north, about the beginning of May, or earlier. At Portland, in the district of Maine, I met with a flock of these birds in October. I do not know that they breed within the United States. Of their song, nest, eggs, &c. we have no account.

The brown lark is six inches long, and ten inches and a half in extent; the upper parts, brown olive, touched with dusky; greater coverts and next superior row, lighter; bill, black, slender; nostril, prominent; chin and line over the eye, pale rufous; breast and belly, brownish ochre, the former spotted with black; tertials, black, the secondaries brown, edged with lighter; tail, slightly forked, black; the two exterior feathers marked largely with white; legs, dark purplish brown; hind heel, long, and nearly straight; eye, dark hazel. Male and female nearly alike. Mr Pennant says that one of these birds was shot near London.

GENUS XXIV.—*REGULUS*, VIEILL.140. *REGULUS CALENDULA*, STEPHENS.*SYLVIA CALENDULA*, WILSON.—RUST-CROWNED WREN.

WILSON, PLATE V. FIG. III.

THIS little bird visits us early in the spring, from the south, and is generally first found among the maple blossoms, about the beginning of April. These failing, it has recourse to those of the peach, apple, and other fruit trees, partly for the tops of the sweet and slender stamina of the flowers, and partly for the winged insects that hover among them. In the middle of summer, I have rarely met with these birds in Pennsylvania; and, as they penetrate as far north as the country round Hudson's Bay, and also breed there, it accounts for their late arrival here, in fall. They then associate with the different species of titmouse, and the golden-crested wren; and are particularly numerous in the month of October, and beginning of November, in orchards, among the decaying leaves of the apple trees, that, at that season, are infested with great numbers of small black-winged insects, among which they make great havoc. I have often regretted the painful necessity one is under of taking away the lives of such inoffensive, useful little creatures, merely to obtain a more perfect knowledge of the species; for they appear so busy, so active and unsuspecting, as to continue searching about the same twig, even after their companions have been shot down beside them. They are more remarkably so in autumn, which may be owing to the great number of young and inexperienced birds which are then among them; and frequently, at this season, I have stood under the tree, motionless, to observe them, while they gleaned among the low branches sometimes within a foot or two of my head. They are extremely adroit in catching their prey; have only at times a feeble chirp; visit the tops of the

tallest trees, as well as the lowest bushes ; and continue generally for a considerable time among the branches of the same tree, darting about from place to place ; appearing, when on the top of a high maple, no bigger than humble bees.

The ruby-crowned wren is four inches long, and six in extent ; the upper parts of the head, neck, and back, are of a fine greenish olive, with a considerable tinge of yellow ; wings and tail, dusky purplish brown, exteriorly edged with yellow olive ; secondaries, and first row of wing-coverts, edged and tipped with white, with a spot of deep purplish brown across the secondaries, just below their coverts ; the hind head is ornamented with an oblong lateral spot of vermilion, usually almost hid by the other plumage ; round the eye, a ring of yellowish white ; whole under parts, of the same tint ; legs, dark brown ; feet and claws, yellow ; bill, slender, straight, not notched, furnished with a few black hairs at the base ; inside of the mouth, orange. The female differs very little in its plumage from the male, the colours being less lively, and the bird somewhat less. Notwithstanding my utmost endeavours, I have never been able to discover their nest ; though, from the circumstance of having found them sometimes here in summer, I am persuaded that they occasionally breed in Pennsylvania ; but I know several birds, no larger than this, that usually build on the extremities of the tallest trees in the woods ; which I have discovered from their beginning before the leaves are out ; many others, no doubt, choose similar situations ; and, should they delay building until the woods are thickened with leaves, it is no easy matter to discover them. In fall, they are so extremely fat, as almost to dissolve between the fingers as you open them ; owing to the great abundance of their favourite insects at that time.

141. *REGULUS CRISTATUS*, BAY.—*SYLVIA REGULUS*, WILSON.

GOLDEN-CRESTED WREN.

WILSON, PLATE VIII. FIG. II. — MALE. — EDINBURGH COLLEGE MUSEUM.

THIS diminutive species is a frequent associate of the brown creeper, and seems to be almost a citizen of the world at large, having been found not only in North and South America, the West Indies, and Europe, but even in Africa and India. The specimen from Europe, in Mr Peale's collection, appears to be in nothing specifically different from the American; and the very accurate description given of this bird, by the Count de Buffon, agrees in every respect with ours. Here, as in Europe, it is a bird of passage, making its first appearance in Pennsylvania early in April, among the blossoms of the maple, often accompanied by the ruby-crowned wren, which, except in the markings of the head, it very much resembles. It is very frequent among evergreens, such as the pine, spruce, cedar, juniper, &c. and in the fall, is generally found in company with the two species of titmouse, brown creeper, and small spotted woodpecker. It is an active, unsuspicious, and diligent little creature, climbing and hanging, occasionally, among the branches, and sometimes even on the body of the tree, in search of the larvæ of insects attached to the leaves and stems, and various kinds of small flies, which it frequently seizes on wing. As it retires still farther north to breed, it is seldom seen in Pennsylvania from May to October; but is then numerous in orchards, feeding among the leaves of the apple trees, which, at that season, are infested with vast numbers of small black-winged insects. Its chirp is feeble, not much louder than that of a mouse; though, where it breeds, the male is said to have a variety of sprightly notes. It builds its nest frequently on the branches of an evergreen, covers it entirely round, leaving a small hole on one side for entrance, forming it outwardly of moss and lichens, and lining it warmly with down.

The female lays six or eight eggs, pure white, with a few minute specks of dull red. Dr Latham, on whose authority this is given, observes, "it seems, to prefer the oak trees in preference to all others. I have more than once seen a brood of these in a large oak, in the middle of a lawn, the whole little family of which, as soon as able, were in perpetual motion, and gave great pleasure to many who viewed them. The nest of one of these has also been made in a garden on a fir tree; it was composed of moss, the opening on one side, in shape roundish; it was lined with a downy substance, mixed with small filaments. It is said to sing very melodiously, very like the common wren, but weaker."* In Pennsylvania, they continue with us from October to December, and sometimes to January.

The golden-crested wren is four inches long, and six inches and a half in extent; back, a fine yellow olive; hind head and sides of the neck, inclining to ash; a line of white passes round the frontlet, extending over and beyond the eye on each side; above this, another line or strip of deep black passes in the same manner, extending farther behind; between these two strips of black, lies a bed of glossy golden yellow, which, being parted a little, exposes another of a bright flame colour, extending over the whole upper part of the head; when the little warbler flits among the branches, in pursuit of insects, he opens and shuts this golden ornament with great adroitness, which produces a striking and elegant effect; lores, marked with circular points of black; below the eye, is a rounding spot of dull white; from the upper mandible to the bottom of the ear-feathers runs a line of black, accompanied by another of white, from the lower mandible; breast, light cream colour; sides under the wings, and vent, the same; wings, dusky, edged exteriorly with yellow olive; greater wing-coverts, tipped with white, immediately below which, a spot of black extends over

* *Synopsis*, ii, 509.

several of the secondaries; tail, pretty long, forked, dusky, exterior vanes broadly edged with yellow olive; legs, brown, feet and claws, yellow; bill, black, slender, straight, evidently of the *muscapa* form, the upper mandible being notched at the point, and furnished at the base with bristles, that reach half way to its point; but what seems singular and peculiar to this little bird, the nostril on each side is covered by a single feather, that much resembles the antennæ of some butterflies, and is half the length of the bill. Buffon has taken notice of the same in the European. Inside of the mouth, a reddish orange; claws, extremely sharp, the hind one the longest. In the female, the tints and markings are nearly the same, only the crown or crest is pale yellow. These birds are numerous in Pennsylvania, in the month of October, frequenting bushes that overhang streams of water, alders, briers, and particularly apple trees, where they are eminently useful in destroying great numbers of insects, and are at that season extremely fat.

GENUS XXV.—TROGLODYTES, VIEILL.

SUBGENUS 1.—TROGLODYTES, VIEILL.

142. TROGLODYTES ŒDON, VIEILL.

SYLVIA DOMESTICA, WILSON.—HOUSE WREN.

WILSON, PLATE VIII. FIG. III.

THIS well known and familiar bird arrives in Pennsylvania about the middle of April; and, about the 8th or 10th of May, begins to build its nest, sometimes in the wooden cornishing under the eaves, or in a hollow cherry tree; but most commonly in small boxes, fixed on the top of a pole, in or near the garden, to which he is extremely partial, for the great number of caterpillars and other larvæ with which it constantly supplies him. If all these conveniences are wanting, he will even put

up with an old hat, nailed on the weather boards, with a small hole for entrance; and, if even this be denied him, he will find some hole, corner, or crevice about the house, barn, or stable, rather than abandon the dwellings of man. In the month of June, a mower hung up his coat, under a shed, near the barn; two or three days elapsed before he had occasion to put it on again; thrusting his arm up the sleeve, he found it completely filled with some rubbish, as he expressed it, and, on extracting the whole mass, found it to be the nest of a wren completely finished, and lined with a large quantity of feathers. In his retreat, he was followed by the little forlorn proprietors, who scolded him with great vehemence, for thus ruining the whole economy of their household affairs. The twigs with which the outward parts of the nest are constructed are short and crooked, that they may the better hook in with one another, and the hole or entrance is so much shut up, to prevent the intrusion of snakes, or cats, that it appears almost impossible the body of the bird could be admitted; within this, is a layer of fine dried stalks of grass, and lastly feathers. The eggs are six or seven, and sometimes nine, of a red purplish flesh colour, innumerable fine grains of that tint being thickly sprinkled over the whole egg. They generally raise two brood in a season; the first about the beginning of June, the second in July.

This little bird has a strong antipathy to cats; for, having frequent occasion to glean among the currant bushes, and other shrubbery in the garden, those lurking enemies of the feathered race often prove fatal to him. A box fixed up in the window of the room where I slept, was taken possession of by a pair of wrens. Already the nest was built, and two eggs laid, when one day, the window being open, as well as the room door, the female wren, venturing too far into the room to reconnoitre, was sprung upon by grimalkin, who had planted herself there for the purpose; and, before relief could be given, was destroyed. Curious to see how the survivor would demean himself, I watched him carefully

for several days. At first he sung with great vivacity for an hour or so, but, becoming uneasy, went off for half an hour; on his return, he chanted again as before, went to the top of the house, stable, and weeping willow, that she might hear him; but seeing no appearance of her, he returned once more, visited the nest, ventured cautiously into the window, gazed about with suspicious looks, his voice sinking to a low melancholy note, as he stretched his little neck about in every direction. Returning to the box, he seemed for some minutes at a loss what to do, and soon after went off, as I thought, altogether, for I saw him no more that day. Towards the afternoon of the second day, he again made his appearance, accompanied with a new female, who seemed exceedingly timorous and shy, and who, after great hesitation, entered the box; at this moment the little widower or bridegroom seemed as if he would warble out his very life with ecstasy of joy. After remaining about half a minute in, they both flew off, but returned in a few minutes, and instantly began to carry out the eggs, feathers, and some of the sticks, supplying the place of the two latter with materials of the same sort; and ultimately succeeded in raising a brood of seven young, all of which escaped in safety.

The immense number of insects which this sociable little bird removes from the garden and fruit trees, ought to endear him to every cultivator, even if he had nothing else to recommend him; but his notes, loud, sprightly, tremulous, and repeated every few seconds with great animation, are extremely agreeable. In the heat of summer, families in the country often dine under the piazza adjoining green canopies of mantling grape vines, gourds, &c. while overhead the trilling vivacity of the wren, mingled with the warbling mimicry of the cat bird, and the distant, softened sounds of numerous other songsters, form a soul-soothing and almost heavenly music, breathing peace, innocence, and rural repose. The European who judges of the song of this species by that of his own wren, (*m. troglodytes*,) will do injustice to the former, as in strength

of tone, and execution, it is far superior, as well as the bird is in size, figure, and elegance of markings, to the European one. Its manners are also different; its sociability greater. It is no underground inhabitant; its nest is differently constructed, the number of its eggs fewer; it is also migratory; and has the tail and bill much longer. Its food is insects and caterpillars, and, while supplying the wants of its young, it destroys, on a moderate calculation, many hundreds a-day, and greatly circumscribes the ravages of these vermin. It is a bold and insolent bird against those of the titmouse or woodpecker kind that venture to build within its jurisdiction; attacking them without hesitation, though twice its size, and generally forcing them to decamp. Even the bluebird, who claims an equal, and sort of hereditary right to the box in the garden, when attacked by this little impertinent, soon relinquishes the contest, the mild placidness of his disposition not being a match for the fiery impetuosity of his little antagonist. With those of his own species who settle and build near him, he has frequent squabbles; and when their respective females are sitting, each strains his whole powers of song to excel the other. When the young are hatched, the hurry and press of business leave no time for disputing, so true it is that idleness is the mother of mischief. These birds are not confined to the country; they are to be heard on the tops of the houses in the most central parts of our cities, singing with great energy. Scarce a house or cottage in the country is without at least a pair of them, and sometimes two; but unless where there is a large garden, orchard, and numerous out-houses, it is not often the case that more than one pair reside near the same spot, owing to their party disputes and jealousies. It has been said, by a friend to this little bird, that "the esculent vegetables of a whole garden may, perhaps, be preserved from the depredations of different species of insects, by ten or fifteen pair of these small birds;"* and probably they might, were the

* BARTON'S *Fragments*, part i, p. 22.

combination practicable; but such a congregation of wrens, about one garden, is a phenomenon not to be expected but from a total change in the very nature and disposition of the species.

Though Europeans are not ignorant of the existence of this bird, they have considered it, as usual, merely as a slight variation from the original stock, (*m. troglodytes*.) their own wren; in which they are, as usual, mistaken; the length and bent form of the bill, its notes, migratory habits, long tail, and red eggs, are sufficient specific differences.

The house wren inhabits the whole of the United States, in all of which it is migratory. It leaves Pennsylvania in September; I have sometimes, though rarely, seen it in the beginning of October. It is four inches and a half long, and five and three quarters in extent, the whole upper parts of a deep brown, transversely crossed with black, except the head and neck, which is plain; throat, breast, and cheeks, light clay colour; belly and vent, mottled with black, brown, and white; tail, long, cuneiform, crossed with black; legs and feet, light clay colour; bill, black, long, slightly curved, sharp pointed, and resembling that of the genus *certhia*, considerably; the whole plumage below the surface is bluish ash; that on the rump having large round spots of white, not perceivable unless separated with the hand. The female differs very little in plumage from the male.

143. *TROGLODYTES EUROPÆUS*, LEACH. — *SYLVIA TROGLODYTES*.

WINTER WREN.

WILSON, PLATE VIII. FIG. VI. — EDINBURGH COLLEGE MUSEUM.

THIS little stranger visits us from the north in the month of October, sometimes remaining with us all the winter, and is always observed, early in spring, on his route back to his breeding place. In size, colour, song, and manners, he approaches nearer to the European wren (*m. troglodytes*) than any other species we have.

During his residence here, he frequents the projecting banks of creeks, old roots, decayed logs, small bushes, and rushes near watery places; he even approaches the farm house, rambles about the wood pile, creeping among the interstices like a mouse. With tail erect, which is his constant habit, mounted on some projecting point or pinnacle, he sings with great animation. Even in the yards, gardens, and outhouses of the city, he appears familiar, and quite at home. In short, he possesses almost all the habits of the European species. He is, however, migratory, which may be owing to the superior coldness of our continent. Never having met with the nest and eggs, I am unable to say how nearly they approximate to those of the former.

I can find no precise description of this bird, as an American species, in any European publication. Even some of our own naturalists seem to have confounded it with another very different bird, the marsh wren,* which arrives in Pennsylvania from the south in May, builds a globular or pitcher-shaped nest, which it suspends among the rushes and bushes by the river side, lays five or six eggs of a dark fawn colour, and departs again in September. But the colours and markings of that bird are very unlike those of the winter wren, and its song altogether different. The circumstance of the one arriving from the north as the other returns to the south, and *vice versa*, with some general resemblance between the two, may have occasioned this mistake. They, however, not only breed in different regions, but belong to different genera, the marsh wren being decisively a species of *certhia*, and the winter wren a true *motacilla*. Indeed we have no less than five species of these birds in Pennsylvania, that, by a superficial observer, would be taken for one and the same; but between each of which nature has drawn strong, discriminating, and indelible lines of separation. These are pointed out in their proper places.

* See Professor Barton's observations on this subject, under the Art. *Motacilla Troglodytes*? *Fragments*, &c. p. 18; *Ibid*. p. 12.

If this bird, as some suppose, retires only to the upper regions of the country, and mountainous forests, to breed, as is the case with some others, it will account for his early and frequent residence along the Atlantic coast during the severest winters; though I rather suspect that he proceeds considerably to the northward; as the snow bird, (*f. Hudsonicus*), which arrives about the same time with the winter wren, does not even breed at Hudson's Bay, but passes that settlement in June, on his way to the northward; how much farther is unknown.

The length of the winter wren is three inches and a half, breadth, five inches; the upper parts are of a general dark brown, crossed with transverse touches of black, except the upper parts of the head and neck, which are plain; the black spots on the back terminate in minute points of dull white; the first row of wing-coverts is also marked with specks of white at the extremities of the black, and tipped minutely with black; the next row is tipped with points of white; the primaries are crossed with alternate rows of black and cream colour; inner vanes of all the quills, dusky, except the three secondaries next the body; tips of the wings, dusky; throat, line over the eye, sides of the neck, ear feathers and breast, dirty white, with minute transverse touches of a drab or clay colour; sides under the wings speckled with dark brown, black, and dirty white; belly and vent thickly mottled with sooty black, deep brown, and pure white, in transverse touches; tail, very short, consisting of twelve feathers, the exterior one on each side a quarter of an inch shorter, the rest lengthening gradually to the middle ones; legs and feet, a light clay colour, and pretty stout; bill, straight, slender, half an inch long, not notched at the point, of a dark brown or black above, and whitish below; nostril, oblong; eye, light hazel. The female wants the points of white on the wing-coverts. The food of this bird is derived from that great magazine of so many of the feathered race, insects and their larvæ, particularly

such as inhabit watery places, roots of bushes, and piles of old timber.

It were much to be wished that the summer residence, nest, and eggs of this bird, were precisely ascertained, which would enable us to determine whether it be, what I strongly suspect it is, the same species as the common domestic wren of Britain.

SUBGENUS II. — *THRYOTHORUS*, VIEILL.

144. *TROGLODYTES LUDOVICIANUS*, BONAPARTE.

CERTHIA CAROLINIANA, WILSON. — GREAT CAROLINA WREN.

WILSON, PLATE XII. FIG. V.

THIS is another of those equivocal species that so often occur to puzzle the naturalist. The general appearance of this bird is such, that the most illiterate would at first sight call it a wren; but the common wren of Europe, and the winter wren of the United States, are both warblers, judging them according to the simple principle of Linnæus. The present species, however, and the marsh wren, though possessing great family likeness to those above mentioned, are decisively creepers, if the bill, the tongue, nostrils, and claws, are to be the criteria by which we are to class them.

The colour of the plumage of birds is but an uncertain and inconstant guide; and though in some cases it serves to furnish a trivial or specific appellation, yet can never lead us to the generic one. I have, therefore, notwithstanding the general appearance of these birds, and the practice of former ornithologists, removed them to the genus *certhia*,* from that of *motacilla*, where they have hitherto been placed.

This bird is frequently seen, early in May, along the shores of the Delaware, and other streams that fall into it on both sides, thirty or forty miles below Philadelphia; but is rather rare in Pennsylvania. This circumstance is a little extraordinary; since, from its size and stout

* It is perhaps unnecessary to remind the reader, that the arrangement of the original edition is not followed in the present.

make, it would seem more capable of braving the rigours of a northern climate than any of the others. It can, however, scarcely be called migratory. In the depth of winter I found it numerous in Virginia along the shores and banks of the James River, and its tributary streams, and thence as far south as Savannah. I also observed it on the banks of the Ogeechee; it seemed to be particularly attached to the borders of cypress swamps, deep hollows, among piles of old decaying timber, and by rivers and small creeks. It has all the restless, jerking manners of the wrens, skipping about with great nimbleness, hopping into caves, and disappearing into holes and crevices, like a rat, for several minutes, and then reappearing in another quarter. It occasionally utters a loud, strong, and singular twitter, resembling the word *chirr-rup*, dwelling long and strongly on the first syllable; and so loud, that I at first mistook it for the red bird (*I. cardinalis*.) It has also another chant, rather more musical, like "*Sweet William, Sweet William*," much softer than the former. Though I cannot positively say, from my own observations, that it builds in Pennsylvania, and have never yet been so fortunate as to find its nest; yet, from the circumstance of having several times observed it within a quarter of a mile of the Schuylkill, in the month of August, I have no doubt that some few breed here, and think it highly probable that Pennsylvania and New York may be the northern boundaries of their visits, having sought for it in vain among the States of New England. Its food appears to consist of those insects, and their larvæ, that frequent low, damp caves, piles of dead timber, old roots, projecting banks of creeks, &c. It certainly possesses the faculty of seeing in the dark better than day birds usually do; for I have observed it exploring the recesses of caves, where a good acute eye must have been necessary to enable it to distinguish its prey.

In the southern States, as well as in Louisiana, this species is generally resident; though in summer they are more numerous, and are found rather farther north

than in winter. In this last season their chirruping is frequently heard in gardens soon after daybreak, and along the borders of the great rivers of the southern States, not far from the sea coast.

The great wren of Carolina is five inches and a quarter long, and seven broad; the whole upper parts are reddish brown, the wings and tail being barred with black; a streak of yellowish white runs from the nostril over the eye, down the side of the neck, nearly to the back; below that, a streak of reddish brown extends from the posterior part of the eye to the shoulder; the chin is yellowish white; the breast, sides, and belly, a light rust colour, or reddish buff; vent-feathers, white, neatly barred with black; in the female, plain; wing-coverts, minutely tipped with white; legs and feet, flesh coloured, and very strong; bill, three quarters of an inch long, strong, a little bent, grooved, and pointed, the upper mandible, bluish black, lower, light blue; nostrils, oval, partly covered with a prominent convex membrane; tongue, pointed and slender; eyes, hazel; tail, cuneiform, the two exterior feathers on each side three quarters of an inch shorter, whitish on their exterior edges, and touched with deeper black; the same may be said of the three outer primaries. The female wants the white on the wing-coverts; but differs little in colour from the male.

In this species I have observed a circumstance common to the house and winter wren, but which is not found in the marsh wren; the feathers of the lower part of the back, when parted by the hand, or breath, appear spotted with white, being at bottom deep ash, reddish brown at the surface, and each feather with a spot of white between these two colours. This, however, cannot be perceived without parting the feathers.

145. *TROGLODYTES PALUSTRIS*, BONAPARTE.*CERTHIA PALUSTRIS*, WILSON. — MARSH WREN.

WILSON, PLATE XII. FIG. IV.

THIS obscure but spirited little species has been almost overlooked by the naturalists of Europe, as well as by those of its own country. The marsh wren arrives in Pennsylvania about the middle of May, or as soon as the reeds and a species of nymphaea, usually called splatterdocks, which grow in great luxuriance along the tide water of our rivers, are sufficiently high to shelter it. To such places it almost wholly limits its excursions, seldom venturing far from the river. Its food consists of flying insects, and their larvæ, and a species of green grasshoppers that inhabit the reeds. As to its notes, it would be mere burlesque to call them by the name of song. Standing on the reedy borders of the Schuylkill or Delaware, in the month of June, you hear a low, crackling sound, something similar to that produced by air bubbles forcing their way through mud or boggy ground when trod upon; this is the song of the marsh wren. But as, among the human race, it is not given to one man to excel in every thing, and yet each, perhaps, has something peculiarly his own; so, among birds, we find a like distribution of talents and peculiarities. The little bird now before us, if deficient and contemptible in singing, excels in the art of design, and constructs a nest, which, in durability, warmth, and convenience, is scarcely inferior to one, and far superior to many, of its more musical brethren. This is formed outwardly of wet rushes mixed with mud, well inter-twisted, and fashioned into the form of a cocoa nut. A small hole is left two-thirds up, for entrance, the upper edge of which projects like a pent-house over the lower, to prevent the admission of rain. The inside is lined with fine soft grass, and sometimes feathers; and the outside, when hardened by the sun, resists every kind of weather. This nest is generally suspended among the reeds, above the reach of the highest tides, and is

ties so fast in every part to the surrounding reeds, as to bid defiance to the winds and the waves. The eggs are usually six, of a dark fawn colour, and very small. The young leave the nest about the 20th of June, and they generally have a second brood in the same season.

The size, general colour, and habit of this bird of erecting its tail, gives it, to a superficial observer, something of the appearance of the common house wren, and still more that of the winter wren; but with the former of these it never associates; and the latter has left us some time before the marsh wren makes his appearance. About the middle of August, they begin to go off; and, on the 1st of September, very few of them are to be seen. How far north the migrations of this species extend, I am unable to say; none of them, to my knowledge, winter in Georgia, or any of the southern States.

The marsh wren is five inches long, and six in extent; the whole upper parts are dark brown, except the upper part of the head, back of the neck, and middle of the back, which are black, the two last streaked with white; the tail is short, rounded, and barred with black; wings, slightly barred; a broad strip of white passes over the eye half way down the neck; the sides of the neck are also mottled with touches of a light clay colour on a whitish ground; whole under parts, pure silvery white, except the vent, which is tinged with brown; the legs are light brown; the hind claw, large, semi-circular, and very sharp; bill, slender, slightly bent; nostrils, prominent; tongue, narrow, very tapering, sharp pointed, and horny at the extremity; eye, hazel. The female almost exactly resembles the male in plumage.

From the above description, the naturalist will perceive that this species is truly a *certhia* or creeper; and indeed its habits confirm this, as it is continually climbing along the stalks of reeds, and other aquatic plants, in search of insects.

FAMILY XI.

TENUIROSTRES, ILLIGER.

GENUS XXVI. — *CERTHIA*, LINNÆUS.

146. *CERTHIA FAMILIARIS*, LINN. AND WILS. — BROWN CREEPER.

WILSON, PLATE VIII. FIG. I. — EDINBURGH COLLEGE MUSEUM.

THIS bird agrees so nearly with the common European creeper, (*certhia familiaris*,) that I have little doubt of their being one and the same species.

The brown creeper is an extremely active and restless little bird. In winter it associates with the small spotted woodpecker, nuthatch, titmouse, &c; and often follows in their rear, gleaning up those insects which their more powerful bills had alarmed and exposed; for its own slender incurvated bill seems unequal to the task of penetrating into even the decayed wood; though it may enter into holes, and behind scales of the bark. Of the titmouse there are, generally, present the individuals of a whole family, and seldom more than one or two of the others. As the party advances through the woods, from tree to tree, our little gleaner seems to observe a good deal of regularity in his proceedings; for I have almost always observed, that he alights on the body near the root of the tree, and directs his course, with great nimbleness, upwards to the higher branches, sometimes spirally, often in a direct line, moving rapidly and uniformly along, with his tail bent to the tree, and not in the hopping manner of the woodpecker, whom he far surpasses in dexterity of climbing, running along the lower side of the horizontal branches with surprising ease. If any person be near when he alights, he is sure to keep the opposite side of the tree, moving round as he moves, so as to prevent him from getting more than a transient glimpse of him. The best method

of outwitting him, if you are alone, is, as soon as he alights and disappears behind the trunk, take your stand behind an adjoining one, and keep a sharp look-out twenty or thirty feet up the body of the tree he is upon,—for he generally mounts very regularly to a considerable height, examining the whole way as he advances. In a minute or two, hearing all still, he will make his appearance on one side or other of the tree, and give you an opportunity of observing him.

These birds are distributed over the whole United States; but are most numerous in the western and northern States, and particularly so in the depth of the forests, and in tracts of large timbered woods, where they usually breed; visiting the thicker settled parts of the country in fall and winter. They are more abundant in the flat woods of the lower district of New Jersey than in Pennsylvania, and are frequently found among the pines. Though their customary food appears to consist of those insects, known by the general name of bugs, yet I have frequently found in their stomachs the seeds of the pine tree, and fragments of a species of fungus that vegetates in old wood, with generally a large proportion of gravel. There seems to be scarcely any difference between the colours and markings of the male and female. In the month of March, I opened eleven of these birds, among whom were several females, as appeared by the clusters of minute eggs with which their ovaries were filled, and also several well marked males; and, on the most careful comparison of their plumage, I could find little or no difference; the colours, indeed, were rather more vivid and intense in some than in others; but sometimes this superiority belonged to a male, sometimes to a female, and appeared to be entirely owing to difference in age. I found, however, a remarkable and very striking difference in their sizes; some were considerably larger, and had the bill, at least, one-third longer and stronger than the others, and these I uniformly found to be males. I also received two of these birds from the country bordering on the Cayuga lake, in New York State, from a person who killed

them from the tree in which they had their nest. The male of this pair had the bill of the same extraordinary size with several others I had examined before; the plumage in every respect the same. Other males, indeed, were found at the same time, of the usual size. Whether this be only an accidental variety, or whether the male, when full grown, be naturally so much larger than the female, (as is the case with many birds,) and takes several years in arriving at his full size, I cannot positively determine, though I think the latter most probable.

The brown creeper builds his nest in the hollow trunk or branch of a tree, where the tree has been shivered, or a limb broken off, or where squirrels or woodpeckers have wrought out an entrance, for nature has not provided him with the means of excavating one for himself. I have known the female begin to lay by the 17th of April. The eggs are usually seven, of a dull cinereous, marked with small dots of reddish yellow, and streaks of dark brown. The young come forth with great caution, creeping about long before they venture on wing. From the early season at which they begin to build, I have no doubts of their raising two broods during summer, as I have seen the old ones entering holes late in July.

The length of this bird is five inches, and nearly seven from the extremity of one wing to that of the other; the upper part of the head is of a deep brownish black; the back brown, and both streaked with white, the plumage of the latter being of a loose texture, with its filaments not adhering; the white is in the centre of every feather, and is skirted with brown; lower part of the back, rump, and tail-coverts, rusty brown, the last minutely tipped with whitish; the tail is as long as the body, of a light drab colour, with the inner webs dusky, and consists of twelve quills, each sloping off and tapering to a point in the manner of the woodpeckers, but proportionably weaker in the shafts; in many specimens the tail was very slightly marked with transverse undulating waves of dusky, scarce observable;

the two middle feathers the longest, the others on each side shortening, by one sixth of an inch, to the outer one; the wing consists of nineteen feathers, the first an inch long, the fourth and fifth the longest, of a deep brownish black, and crossed about its middle with a curving band of rufous white, a quarter of an inch in breadth, marking ten of the quills; below this the quills are exteriorly edged, to within a little of their tips, with rufous white, and tipped with white; the three secondaries next the body are dusky white on their inner webs, tipped on the exterior margin with white, and, above that, alternately streaked laterally with black and dull white; the greater and lesser wing-coverts are exteriorly tipped with white; the upper part of the exterior edges of the former, rufous white; the line over the eye, and whole lower parts, are white, a little brownish towards the vent, but, on the chin and throat, pure, silky, and glistening; the white curves inwards about the middle of the neck; the bill is half an inch long, slender, compressed sidewise, bending downwards, tapering to a point, dusky above, and white below; the nostrils are oblong, half covered with a convex membrane, and without hairs or small feathers; the inside of the mouth is reddish; the tongue tapering gradually to a point, and horny towards the tip; the eye is dark hazel; the legs and feet, a dirty clay colour; the toes, placed three before and one behind, the two outer ones connected with the middle one to the first joint; the claws rather paler, large, almost semicircular, and extremely sharp pointed; the hind claw the largest.

GENUS XXVII. — *SITTA*, LINNEUS.147. *SITTA CAROLINENSIS*, BRISS. LINN. AND WILS.WHITE-BREASTED BLACK-CAPT NUTHATCH, OR CAROLINA
NUTHATCH.

WILSON, PLATE II. FIG. III.

THE bill of this bird is black, the upper mandible straight, the lower one rounded upwards, towards the

point, and white near the base; the nostrils are covered with long curving black hairs; the tongue is of a horny substance, and ending in several sharp points; the general colour above is of a light blue or lead; the tail consists of twelve feathers, the two middle ones lead colour, the next three are black, tipped with white for one-tenth, one-fourth, and half of an inch; the two next are also black, tipped half an inch or more with white, which runs nearly an inch up their exterior edges, and both have the white at the tips touched with black; the legs are of a purple or dirty flesh colour; the hind claw is much the largest; the inside of the wing at the bend is black; below this is a white spot spreading over the roots of the first five primaries; the whole length is five inches and a half; extent, eleven.

Mr Pennant considers this bird as a mere variety of the European nuthatch; but if difference in size, colour, and habits, be sufficient characteristics of a distinct species, this bird is certainly entitled to be considered as such. The head and back of the European species is of an uniform bluish gray; the upper parts of the head, neck, and shoulders, of ours, are a deep black glossed with green; the breast and belly of the former is a dull orange, with streaks of chestnut; those parts in the latter are pure white. The European has a line of black passing through the eye, half way down the neck; the present species has nothing of the kind, but appears with the inner webs of the three shortest secondaries and the primaries of a jet black; the latter tipped with white, and the vent and lower parts of the thighs of a rust colour; the European, therefore, and the present, are evidently two distinct and different species.

This bird builds its nest early in April, in the hole of a tree, in a hollow rail in the fence, and sometimes in the wooden cornishing under the eaves; and lays five eggs of a dull white, spotted with brown at the greater end. The male is extremely attentive to the female while sitting; supplying her regularly with sustenance, stopping frequently at the mouth of the hole, calling and offering her what he has brought, in

the most endearing manner. Sometimes he seems to stop merely to inquire how she is, and to lighten the tedious moments with his soothing chatter. He seldom rambles far from the spot; and when danger appears, regardless of his own safety, he flies instantly to alarm her. When both are feeding on the trunk of the same tree, or of adjoining ones, he is perpetually calling on her; and, from the momentary pause he makes, it is plain that he feels pleased to hear her reply.

The white-breasted nuthatch is common almost every where in the woods of North America, and may be known, at a distance, by the notes, *quank, quank*, frequently repeated, as he moves, upward and down, in spiral circles, around the body and larger branches of the tree, probing behind the thin scaly bark of the white oak, and shelling off considerable pieces of it, in his search after spiders, ants, insects, and their larvæ. He rests and roosts with his head downwards, and appears to possess a degree of curiosity not common in many birds; frequently descending, very silently, within a few feet of the root of the tree where you happen to stand, stopping, head downward, stretching out his neck in a horizontal position, as if to reconnoitre your appearance; and, after several minutes of silent observation, wheeling round, he again mounts, with fresh activity, piping his unisons as before. Strongly attached to his native forests, he seldom forsakes them; and, amidst the rigours of the severest winter weather, his note is still heard in the bleak and leafless woods, and among the howling branches. Sometimes the rain, freezing as it falls, encloses every twig, and even the trunk of the tree, in a hard transparent coat or shell of ice. On these occasions I have observed his anxiety and dissatisfaction, at being, with difficulty, able to make his way along the smooth surface; at these times generally abandoning the trees, gleaning about the stables, around the house, mixing among the fowls, entering the barn, and examining the beams and rafters, and every place where he may pick up a subsistence.

The name nuthatch has been bestowed on this family.

of birds, from their supposed practice of breaking nuts by repeated hatchings, or hammerings with their bills. Soft shelled nuts, such as chestnuts, chinkopins, and hazel nuts, they may, probably, be able to demolish, though I have never yet seen them so engaged; but it must be rather in search of maggots, that sometimes breed there, than for the kernel. It is, however, said, that they lay up a large store of nuts for winter; but, as I have never either found any of their magazines, or seen them collecting them, I am inclined to doubt the fact. From the great numbers I have opened at all seasons of the year, I have every reason to believe that ants, bugs, small seeds, insects, and their larvæ, form their chief subsistence, such matters alone being uniformly found in their stomachs. Neither can I see what necessity they could have to circumambulate the trunks of trees with such indefatigable and restless diligence, while bushels of nuts lay scattered round their roots. As to the circumstance mentioned by Dr Plott, of the European nuthatch "putting its bill into a crack in the bough of a tree, and making such a violent sound, as if it was rending asunder," this, if true, would be sufficient to distinguish it from the species we have been just describing, which possesses no such faculty. The female differs little from the male in colour, chiefly in the black being less deep on the head and wings.

148. *SITTA VARIA*, WILSON. — *SITTA CANADENSIS*, LINNÆUS.

RED-BELLIED BLACK-CAPT NUTHATCH.

WILSON, PLATE II. FIG. IV.

THIS bird is much smaller than the last, measuring only four inches and a half in length, and eight inches in extent. In the form of its bill, tongue, nostrils, and in the colour of the back and tail-feathers, it exactly agrees with the former; the secondaries are not relieved with the deep black of the other species, and the legs, feet, and claws, are of a dusky greenish yellow; the

upper part of the head is black, bounded by a stripe of white passing round the frontlet; a line of black passes through the eye to the shoulder; below this is another line of white; the chin is white; the other under parts a light rust colour, the primaries and whole wings a dusky lead colour. The breast and belly of the female is not of so deep a brown, and the top of the head less intensely black.

This species is migratory, passing from the north, where they breed, to the southern States, in October, and returning in April. Its voice is sharper, and its motions much quicker than those of the other, being so rapid, restless, and small, as to make it a difficult point to shoot one of them. When the two species are in the woods together, they are easily distinguished by their voices, the note of the least being nearly an octave sharper than that of its companion, and repeated more hurriedly. In other respects their notes are alike unmusical and monotonous. Approaching so near to each other in their colours and general habits, it is probable that their mode of building, &c. may be also similar.

Buffon's *Torchepot de la Canada*, Canada nuthatch of other European writers, is either a young bird of the present species, in its imperfect plumage, or a different sort, that rarely visits the United States,—probably the latter, as the tail and head appear of the same bluish gray or lead colour as the back. The young birds of this species, it may be observed, have also the crown of a lead colour during the first season; but the tail-feathers are marked nearly as those of the old ones. Want of precision in the figures and descriptions of these authors makes it difficult to determine; but I think it very probable, that *Sitta Jamaicensis minor*, Brisson, the Least Loggerhead of Brown, *Sitta Jamaicensis var. t. st.* Linn., and *Sitta Canadensis* of Linnæus, Gmelin, and Brisson, are names that have been originally applied to different individuals of the species we are now describing.

This bird is particularly fond of the seeds of pine

trees. You may traverse many thousand acres of oak, hickory, and chestnut woods, during winter, without meeting with a single individual; but no sooner do you enter among the pines than, if the air be still, you have only to listen for a few moments, and their note will direct you where to find them. They usually feed in pairs, climbing about in all directions, generally accompanied by the former species, as well as by the titmouse, *parus atricapillus*, and the crested titmouse, *parus bicolor*, and not unfrequently by the small spotted woodpecker, *picus pubescens*; the whole company proceeding regularly from tree to tree through the woods like a corps of pioneers; while, in a calm day, the rattling of their bills, and the rapid motions of their bodies, thrown, like so many tumblers and rope dancers, into numberless positions, together with the peculiar chatter of each, are altogether very amusing; conveying the idea of hungry diligence, bustle, and activity. Both these little birds, from the great quantity of destructive insects and larvæ they destroy, both under the bark and among the tender buds of our fruit and forest trees, are entitled to and truly deserving of our esteem and protection.

149. *SITTA PUSILLA*, LATHAM AND WILSON.

BROWN-HEADED NUTHATCH.

WILSON, PLATE XV. FIG. II.

THIS bird is chiefly an inhabitant of Virginia and the southern States, and seems particularly fond of pine trees. I have never yet discovered it either in Pennsylvania or any of the regions north of this. Its manners are very similar to those of the red-bellied nuthatch; but its notes are more shrill and chirping. In the countries it inhabits it is a constant resident; and in winter associates with parties, of eight or ten, of its own species, who hunt busily from tree to tree, keeping up a perpetual screeching. It is a frequent companion of the red-cockaded woodpecker; and you rarely find

the one in the woods without observing or hearing the other not far off. It climbs equally in every direction, on the smaller branches as well as on the body of the tree, in search of its favourite food, small insects and their larvæ. It also feeds on the seeds of the pine tree. I have never met with its nest.

This species is four inches and a quarter long, and eight broad; the whole upper part of the head and neck, from the bill to the back, and as far down as the eyes, is light brown, or pale ferruginous, shaded with darker touches, with the exception of a spot of white near the back; from the nostril through the eyes, the brown is deepest, making a very observable line there; the chin, and sides of the neck under the eyes, are white; the wings, dusky; the coverts and three secondaries next the body, a slate or lead colour; which is also the colour of the rest of the upper parts; the tail is nearly even at the end, the two middle feathers slate colour, the others black, tipped with slate, and crossed diagonally with a streak of white; legs and feet, dull blue; upper mandible, black, lower, blue at the base; iris, hazel. The female differs in having the brown on the head rather darker, and the line through the eye less conspicuous.

This diminutive bird is little noticed in history, and what little has been said of it by Europeans is not much to its credit. It is characterized as "a very stupid bird," which may easily be knocked down, from the sides of the tree, with one's cane. I confess I found it a very dexterous climber; and so rapid and restless in its motions as to be shot with difficulty. Almost all very small birds seem less suspicious of man than large ones; but that activity and restless diligence should constitute stupidity, is rather a new doctrine. Upon the whole, I am of opinion, that a person who should undertake the destruction of these birds, at even a dollar a-head for all he knocked down with his cane, would run a fair chance of starving by his profession.

FAMILY XII.

ANTHOMYZI, VIRELL.

GENUS XXVIII.—*TROCHILUS*, LINNÆUS.

SUBGENUS, *MELLISUGA*, BRISSON.

150. *TROCHILUS COLUBERIS*, LINN. AND WILS. — HUMMING BIRD.

WILSON, PLATE X. FIG. III. — MALE. — FIG. IV. — FEMALE.

EDINBURGH COLLEGE MUSEUM.

NATURE, in every department of her works, seems to delight in variety; and the present subject of our history is almost as singular for its minuteness, beauty, want of song, and manner of feeding, as the preceding is for unrivalled excellence of notes, and plainness of plumage. Though this interesting and beautiful genus of birds comprehends upwards of seventy species, all of which, with a very few exceptions, are natives of America and its adjacent islands, it is yet singular, that the species now before us should be the only one of its tribe that ever visits the territory of the United States.

According to the observations of my friend Mr Abbot, of Savannah, in Georgia, who has been engaged these thirty years in collecting and drawing subjects of natural history in that part of the country, the humming bird makes its first appearance there, from the south, about the 23d of March; two weeks earlier than it does in the county of Burke, sixty miles higher up the country towards the interior; and at least five weeks sooner than it reaches this part of Pennsylvania. As it passes on to the northward as far as the interior of Canada, where it is seen in great numbers,* the wonder is

* Mr M'Kenzie speaks of seeing a "beautiful humming bird" near the head of the Unjigah or Peace river, in lat. 54 deg.; but has not particularized the species.

excited how so feebly constructed and delicate a little creature can make its way over such extensive regions of lakes and forests, among so many enemies, all its superiors in strength and magnitude. But its very minuteness, the rapidity of its flight, which almost eludes the eye, and that admirable instinct, reason, or whatever else it may be called, and daring courage, which heaven has implanted in its bosom, are its guides and protectors. In these we may also perceive the reason, why an all-wise Providence has made this little hero an exception to a rule which prevails almost universally through nature, viz. that the smallest species of a tribe are the most prolific. The eagle lays one, sometimes two, eggs; the crow, five; the titmouse, seven or eight; the small European wren, fifteen; the humming bird, *two*: and yet this latter is abundantly more numerous in America than the wren in Europe.

About the 25th of April, the humming bird usually arrives in Pennsylvania; and about the 10th of May begins to build its nest. This is generally fixed on the upper side of a horizontal branch, not among the twigs, but on the body of the branch itself. Yet I have known instances where it was attached by the side to an old moss-grown trunk; and others where it was fastened on a strong rank stalk, or weed, in the garden; but these cases are rare. In the woods it very often chooses a white oak sapling to build on; and in the orchard, or garden, selects a pear tree for that purpose. The branch is seldom more than ten feet from the ground. The nest is about an inch in diameter, and as much in depth. A very complete one is now lying before me, and the materials of which it is composed are as follow:—The outward coat is formed of small pieces of a species of bluish gray lichen that vegetates on old trees and fences, thickly glued on with the saliva of the bird, giving firmness and consistency to the whole, as well as keeping out moisture. Within this are thick, matted layers of the fine wings of certain flying seeds, closely laid together; and, lastly, the

downy substance from the great mullein, and from the stalks of the common fern, lines the whole. The base of the nest is continued round the stem of the branch, to which it closely adheres; and, when viewed from below, appears a mere mossy knot, or accidental protuberance. The eggs are two, pure white, and of equal thickness at both ends. On a person's approaching their nest, the little proprietors dart around with a humming sound, passing frequently within a few inches of one's head; and, should the young be newly hatched, the female will resume her place on the nest even while you stand within a yard or two of the spot. The precise period of incubation I am unable to give; but the young are in the habit, a short time before they leave the nest, of thrusting their bills into the mouths of their parents, and sucking what they have brought them. I never could perceive that they carried them any animal food; though, from circumstances that will presently be mentioned, I think it highly probable they do. As I have found their nests with eggs so late as the 12th of July, I do not doubt but that they frequently, and perhaps usually, raise two brood in the same season.

The humming bird is extremely fond of tubular flowers, and I have often stopt, with pleasure, to observe his manœuvres among the blossoms of the trumpet flower. When arrived before a thicket of these that are full blown, he poises, or suspends himself on wing, for the space of two or three seconds, so steadily, that his wings become invisible, or only like a mist; and you can plainly distinguish the pupil of his eye looking round with great quickness and circumspection; the glossy golden green of his back, and the fire of his throat, dazzling in the sun, form altogether a most interesting appearance. When he alights, which is frequently, he always prefers the small dead twigs of a tree, or bush, where he dresses and arranges his plumage with great dexterity. His only note is a single chirp, not louder than that of a small cricket.

or grasshopper, generally uttered while passing from flower to flower, or when engaged in fights with his fellows; for, when two males meet at the same bush, or flower, a battle instantly takes place; and the combatants ascend in the air, chirping, darting and circling around each other, till the eye is no longer able to follow them. The conqueror, however, generally returns to the place, to reap the fruits of his victory. I have seen him attack, and for a few moments tease the king bird; and have also seen him, in his turn, assaulted by a humble-bee, which he soon put to flight. He is one of those few birds that are universally beloved; and amidst the sweet dewy serenity of a summer's morning, his appearance among the arbours of honeysuckles, and beds of flowers, is truly interesting.

When morning dawns, and the blest sun again
Lifts his red glories from the eastern main,
Then through our woodbines, wet with glittering dews,
The flower-fed humming bird his round pursues;
Sips, with inserted tube, the honey'd blooms,
And chirps his gratitude as round he roams;
While richest roses, though in crimson drest,
Shrink from the splendour of his gorgeous breast;
What heav'nly tints in mingling radiance fly!
Each rapid movement gives a different dye;
Like scales of burnish'd gold they dazzling shew,
Now sink to shade—now like a furnace glow!

The singularity of this little bird has induced many persons to attempt to raise them from the nest, and accustom them to the cage. Mr Coffey, of Fairfax county, Virginia, a gentleman who has paid great attention to the manners and peculiarities of our native birds, told me, that he raised, and kept two, for some months, in a cage; supplying them with honey dissolved in water, on which they readily fed. As the sweetness of the liquid frequently brought small flies and gnats about the cage, and cup, the birds amused themselves by snapping at them on wing, and swallowing them with eagerness, so

that these insects formed no inconsiderable part of their food. Mr Charles Wilson Peale, proprietor of the museum, tells me, that he had two young humming birds, which he raised from the nest. They used to fly about the room; and would frequently perch on Mrs Peale's shoulder to be fed. When the sun shone strongly into the chamber, he has observed them darting after the motes that floated in the light, as fly-catchers would after flies. In the summer of 1803, a nest of young humming birds was brought me, that were nearly fit to fly. One of them actually flew out by the window the same evening, and, falling against a wall, was killed. The other refused food, and the next morning I could but just perceive that it had life. A lady in the house undertook to be its nurse, placed it in her bosom, and, as it began to revive, dissolved a little sugar in her mouth, into which she thrust its bill, and it sucked with great avidity. In this manner it was brought up until fit for the cage. I kept it upwards of three months, supplied it with loaf sugar dissolved in water, which it preferred to honey and water, gave it fresh flowers every morning sprinkled with the liquid, and surrounded the space in which I kept it with gauze, that it might not injure itself. It appeared gay, active, and full of spirit, hovering from flower to flower as if in its native wilds, and always expressed by its motions and chirping, great pleasure at seeing fresh flowers introduced to its cage. Numbers of people visited it from motives of curiosity; and I took every precaution to preserve it, if possible, through the winter. Unfortunately, however, by some means it got at large, and, flying about the room, so injured itself that it soon after died.

This little bird is extremely susceptible of cold, and, if long deprived of the animating influence of the sunbeams, droops and soon dies. A very beautiful male was brought me this season, [1809,] which I put into a wire cage, and placed in a retired shaded part of the room. After fluttering about for some time, the weather being uncommonly cool, it clung by the wires,

and hung in a seemingly torpid state for a whole forenoon. No motion whatever of the lungs could be perceived, on the closest inspection; though, at other times, this is remarkably observable; the eyes were shut; and, when touched by the finger, it gave no signs of life or motion. I carried it out to the open air, and placed it directly in the rays of the sun, in a sheltered situation. In a few seconds, respiration became very apparent; the bird breathed faster and faster, opened its eyes, and began to look about, with as much seeming vivacity as ever. After it had completely recovered, I restored it to liberty; and it flew off to the withered top of a pear tree, where it sat for some time dressing its disordered plumage, and then shot off like a meteor.

The flight of the humming bird, from flower to flower, greatly resembles that of a bee; but is so much more rapid, that the latter appears a mere loiterer to him. He poises himself on wing, while he thrusts his long, slender, tubular tongue into the flowers in search of food. He sometimes enters a room by the window, examines the bouquets of flowers, and passes out by the opposite door or window. He has been known to take refuge in a hot-house during the cool nights of autumn; to go regularly out in the morning, and to return as regularly in the evening, for several days together.

The humming bird has, hitherto, been supposed to subsist altogether on the honey, or liquid sweets, which it extracts from flowers. One or two curious observers have, indeed, remarked, that they have found evident fragments of insects in the stomach of this species; but these have been generally believed to have been taken in by accident. The few opportunities which Europeans have to determine this point by observations made on the living bird, or, by dissection of the newly killed one, have rendered this mistaken opinion almost general in Europe. For myself I can speak decisively on this subject: I have seen the humming bird, for half an hour at a time, darting at those little groups of

insects that dance in the air in a fine summer evening, retiring to an adjoining twig to rest, and renewing the attack with a dexterity that sets all our other flycatchers at defiance. I have opened, from time to time, great numbers of these birds; have examined the contents of the stomach with suitable glasses, and, in three cases out of four, have found these to consist of broken fragments of insects. In many subjects, entire insects of the coleopterous class, but very small, were found unbroken. The observations of Mr Coffey, as detailed above, and the remarks of my worthy friend Mr Peale, are corroborative of these facts. It is well known, that the humming bird is particularly fond of tubular flowers, where numerous small insects of this kind resort to feed on the farina, &c; and there is every reason for believing that he is as often in search of these insects as of honey; and that the former compose at least as great a portion of his usual sustenance as the latter. If this food be so necessary for the parents, there is no doubt but the young also occasionally partake of it.

To enumerate all the flowers of which this little bird is fond, would be to repeat the names of half our American Flora. From the blossoms of the towering poplar, or tulip tree, through a thousand intermediate flowers, to those of the humble larkspur, he ranges at will, and almost incessantly. Every period of the season produces a fresh multitude of new favourites. Towards the month of September there is a yellow flower which grows in great luxuriance along the sides of creeks and rivers, and in low moist situations; it grows to the height of two or three feet, and the flower, which is about the size of a thimble, hangs in the shape of a cap of liberty above a luxuriant growth of green leaves. It is the *balsamina noli me tangere* of botanists, and is the greatest favourite with the humming bird of all our other flowers. In some places, where these plants abound, you may see, at one time, ten or twelve humming birds darting about, and fighting with and pursuing each other. About the 20th of September

they generally retire to the south. I have, indeed, sometimes seen a solitary individual on the 28th and 30th of that month, and sometimes even in October; but these cases are rare. About the beginning of November, they pass the southern boundary of the United States into Florida.

The humming bird is three inches and a half in length, and four and a quarter in extent; the whole back, upper part of the neck, sides under the wings, tail-coverts, and two middle feathers of the tail, are of a rich golden green; the tail is forked, and, as well as the wings, of a deep brownish purple; the bill and eyes are black; the legs and feet, both of which are extremely small, are also black; the bill is straight, very slender, a little inflated at the tip, and very incompetent to the exploit of penetrating the tough sinewy side of a crow, and precipitating it from the clouds to the earth, as Charlevoix would persuade his readers to believe.* The nostrils are two small oblong slits, situated at the base of the upper mandible, scarcely perceivable when the bird is dead, though very distinguishable and prominent when living; the sides of the belly, and belly itself, dusky white, mixed with green; but what constitutes the chief ornament of this little bird, is the splendour of the feathers of his throat, which, when placed in a proper position, glow with all the brilliancy of the ruby. These feathers are of singular strength and texture, lying close together like scales, and vary, when moved before the eye, from a deep black to a fiery crimson and burning orange. The female is destitute of this ornament; but differs little in other appearance from the male; her tail is tipped with white, and the whole lower parts are of the same tint. The young birds of the first season, both male and female, have the tail tipped with white, and the whole lower parts nearly white; in the month of September, the ornamental feathers on the throat of the young males begin to appear.

* *Histoire de la Nouvelle France*, iii, p. 185.

On dissection the heart was found to be remarkably large, nearly as big as the cranium, and the stomach, though distended with food, uncommonly small, not exceeding the globe of the eye, and scarcely more than one-sixth part as large as the heart; the fibres of the last were also exceedingly strong. The brain was in large quantity, and very thin; the tongue, from the tip to an extent equal with the length of the bill, was perforated, forming two closely attached parallel and cylindrical tubes; the other extremities of the tongue corresponded exactly to those of the woodpecker, passing up the hind head, and reaching to the base of the upper mandible. These observations were verified in five different subjects, all of whose stomachs contained fragments of insects, and some of them whole ones.

FAMILY XIII.

AGITHALI, VIEILL.

GENUS XXIX.—*PARUS*, LINNÆUS.

151. *PARUS ATRICAPILLUS*, LINNÆUS AND WILSON.

BLACK-CAPT TITMOUSE.

WILSON, PLATE VIII. FIG. IV.

THIS is one of our resident birds, active, noisy, and restless; hardy beyond any of his size, braving the severest cold of our continent as far north as the country round Hudson's Bay, and always appearing most lively in the coldest weather. The males have a variety of very sprightly notes, which cannot, indeed, be called a song, but rather a lively, frequently repeated, and often varied twitter. They are most usually seen during the fall and winter, when they leave the depths of the woods, and approach nearer to the scenes of cultivation. At such seasons they abound among evergreens, feeding on the seeds of the pine tree; they are also fond of sunflower seeds, and associate in parties of six, eight, or more, attended by the Carolina nuthatch, the red-bellied black-capt nuthatch, the crested titmouse, brown creeper, and small spotted woodpecker; the whole forming a very nimble and restless company, whose food, manners, and dispositions are pretty much alike. About the middle of April they begin to build, choosing the deserted hole of a squirrel or woodpecker, and sometimes, with incredible labour, digging out one for themselves. The female lays six white eggs, marked with minute specks of red; the first brood appear about the beginning of June, and the second towards the end of July; the whole of the family continue to associate together during winter. They traverse the

woods in regular progression, from tree to tree, tumbling, chattering, and hanging from the extremities of the branches, examining about the roots of the leaves, buds, and crevices of the bark, for insects and their larvæ. They also frequently visit the orchards, particularly in fall, the sides of the barn and barn-yard, in the same pursuit, trees in such situations being generally much infested with insects. We, therefore, with pleasure, rank this little bird among the farmer's friends, and trust our rural citizens will always recognize him as such.

This species has a very extensive range ; it has been found on the western coast of America as far north as lat. 62° ; it is common at Hudson's Bay, and most plentiful there during winter, as it then approaches the settlements in quest of food. Protected by a remarkably thick covering of long, soft, downy plumage, it braves the severest cold of those northern regions.

The black-capt titmouse is five inches and a half in length, and six and a half in extent ; throat, and whole upper part of the head and ridge of the neck, black ; between these lies a triangular patch of white, ending at the nostril ; bill, black and short ; tongue, truncate ; rest of the upper parts, lead coloured or cinereous, slightly tinged with brown ; wings, edged with white ; breast, belly, and vent, yellowish white ; legs, light blue ; eyes, dark hazel. The male and female are nearly alike.

The upper parts of the head of the young are for some time of a dirty brownish tinge ; and in this state they agree so exactly with the *parus hudsonicus*,* described by Latham, as to afford good grounds for suspecting them to be the same.

These birds sometimes fight violently with each other, and are known to attack young and sickly birds that are incapable of resistance, always directing their blows against the skull. Being in the woods one day, I followed a bird for some time, the singularity of

* Hudson Bay Titmouse, *Synopsis*, ii, 557.

whose notes surprised me. Having shot him from off the top of a very tall tree, I found it to be the black-headed titmouse, with a long and deep indentation in the cranium, the skull having been evidently, at some former time, drove in, and fractured, but was now perfectly healed. Whether or not the change of voice could be owing to this circumstance, I cannot pretend to decide.

152. *PARUS BICOLOR*, LINN. AND WILS. — CRESTED TITMOUSE.

WILSON, PLATE VIII. FIG. V.

THIS is another associate of the preceding species ; but more noisy, more musical, and more suspicious, though rather less active. It is, nevertheless, a sprightly bird, possessing a remarkable variety in the tones of its voice, at one time not much louder than the squeaking of a mouse, and in a moment after whistling aloud, and clearly, as if calling a dog ; and continuing this dog-call through the woods for half an hour at a time. Its high, pointed crest, or, as Pennant calls it, *toupet*, gives it a smart and not inelegant appearance. Its food corresponds with that of the foregoing ; it possesses considerable strength in the muscles of its neck, and is almost perpetually digging into acorns, nuts, crevices, and rotten parts of the bark, after the larvæ of insects. It is also a constant resident here. When shot at and wounded, it fights with great spirit. When confined to a cage, it soon becomes familiar, and will subsist on hemp seed, cherry stones, apple seeds, and hickory nuts, broken and thrown in to it. However, if the cage be made of willows, and the bird not much hurt, he will soon make his way through them. The great concavity of the lower side of the wings and tail of this genus of birds is a strong characteristic, and well suited to their short irregular flight.

This species it also found over the whole United States ; but is most numerous towards the north. It extends also to Hudson's Bay ; and, according to Latham, is found in Denmark, and in the southern

parts of Greenland, where it is called *avingarsak*. If so, it probably inhabits the continent of North America from sea to sea.

The crested titmouse is six inches long, and seven inches and a half in extent; the whole upper parts, a dull cinereous, or lead colour, except the front, which is black, tinged with reddish; whole lower parts, dirty white, except the sides under the wings, which are reddish orange; legs and feet, light blue; bill, black, short, and pretty strong; wing feathers, relieved with dusky on their inner vanes; eye, dark hazel; lores, white; the head elegantly ornamented, with a high, pointed, almost upright, crest; tail, a little forked, considerably concave below, and of the same colour above as the back; tips of the wings, dusky; tongue, very short, truncate, and ending in three or four sharp points. The female cannot be distinguished from the male by her plumage, unless in its being something duller, for both are equally marked with reddish orange on the sides under the wings, which some foreigners have made the distinguishing mark of the male alone.

The nest is built in a hollow tree, the cavity often dug by itself; the female begins to lay early in May; the eggs are usually six, pure white, with a few very small specks of red near the great end. The whole family, in the month of July, hunt together, the parents keeping up a continual chatter, as if haranguing and directing their inexperienced brood.

FAMILY XIV.

PASSERINI, ILLIGER.

GENUS XXX.—*ALAUDA*, LINNÆUS.

153. *ALAUDA ALPESTRIS*, LINNÆUS AND WILSON.

SHORE LARK.

WILSON, PLATE V. FIG. IV. — EDINBURGH COLLEGE MUSEUM.

THIS is the most beautiful of its genus, at least in this part of the world. It is one of our winter birds of passage, arriving from the north in the fall; usually staying with us the whole winter, frequenting sandy plains and open downs, and is numerous in the southern States, as far as Georgia, during that season. They fly high, in loose scattered flocks; and at these times have a single cry, almost exactly like the sky lark of Britain. They are very numerous in many tracts of New Jersey; and are frequently brought to Philadelphia market. They are then generally very fat, and are considered excellent eating. Their food seems principally to consist of small round compressed black seeds, buckwheat, oats, &c. with a large proportion of gravel. On the flat commons, within the boundaries of the city of Philadelphia, flocks of them are regularly seen during the whole winter. In the stomach of these, I have found, in numerous instances, quantities of the eggs or larvæ of certain insects, mixed with a kind of slimy earth. About the middle of March they generally disappear, on their route to the north. Forster informs us, that they visit the environs of Albany fort, in the beginning of May; but go farther north to breed; that they feed on grass seeds, and buds of the sprig birch, and run into small holes, keeping close to the ground; from whence the natives call them *chi-chup*-

pi-sue.* This same species appears also to be found in Poland, Russia, and Siberia, in winter, from whence they also retire farther north on the approach of spring; except in the northeast parts, and near the high mountains.†

The length of this bird is seven inches, the extent twelve inches; the forehead, throat, sides of the neck, and line over the eye, are of a delicate straw, or Naples yellow, elegantly relieved by a bar of black, that passes from the nostril to the eye, below which it falls, rounding, to the depth of three quarters of an inch; the yellow on the forehead and over the eye, is bounded, within, for its whole length, with black, which covers part of the crown; the breast is ornamented with a broad fan-shaped patch of black: this, as well as all the other spots of black, are marked with minute curves of yellow points; back of the neck, and towards the shoulders, a light drab tinged with lake; lesser wing-coverts, bright cinnamon; greater wing-coverts, the same, interiorly dusky, and tipped with whitish; back and wings, drab-coloured, tinged with reddish, each feather of the former having a streak of dusky black down its centre; primaries, deep dusky, tipped and edged with whitish; exterior feathers, most so; secondaries, broadly edged with light drab, and scalloped at the tips; tail, forked, black; the two middle feathers, which by some have been mistaken for the coverts, are reddish drab, centred with brownish black; the two outer ones on each side, exteriorly edged with white; breast, of a dusky vinous tinge, and marked with spots or streaks of the same; the belly and vent, white; sides, streaked with bay; bill short, (Latham, in mistake, says seven inches,‡) of a dusky blue colour; tongue, truncate and bifid; legs and claws, black; hind heel, very long, and almost straight; iris of the eye, hazel. The female has little or no black on the crown; and the yellow on the front is narrow, and of a dirty tinge.

* *Philosophical Transactions*, vol. lxii, p. 398.

† *Arctic Zoology*.

‡ *Synopsis*, vol. ii, p. 385.

There is a singular appearance in this bird, which I have never seen taken notice of by former writers, viz. certain long black feathers, which extend, by equal distances beyond each other, above the eyebrow; these are longer, more pointed, and of a different texture from the rest around them; and the bird possesses the power of erecting them, so as to appear as if horned, like some of the owl tribe. Having kept one of these birds alive for some time, I was much amused at this odd appearance, and think it might furnish a very suitable specific appellation, viz. *alauda cornuta*, or horned lark. These horns become scarcely perceivable after the bird is dead. The head is slightly crested.

Shore lark and sky lark are names by which this species is usually known in different parts of the Union. They are said to sing well, mounting in the air, in the manner of the song lark of Europe; but this is only in those countries where they breed. I have never heard of their nests being found within the territory of the United States.

GENUS XXXI.—*EMBERIZA*, LINNÆUS.

SUBGENUS, *PLECTROPHANIS*, MEYER.

154. *EMBERIZA NIVALIS*, LINNÆUS AND WILSON.

SNOW BUNTING.

WILSON, PLATE XXI. FIG. II. — EDINBURGH COLLEGE MUSEUM.

THIS being one of those birds common to both continents, its migrations extending almost from the very pole, to a distance of forty or fifty degrees around; and its manners and peculiarities having been long familiarly known to the naturalists of Europe, I shall in this place avail myself of the most interesting parts of their accounts, subjoining such particulars as have fallen under my own observation.

“These birds,” says Mr Pennant, “inhabit not only Greenland,* but even the dreadful climate of Spitz-

* CRANTZ, i, 77.

bergen, where vegetation is nearly extinct, and scarcely any but *cryptogamous* plants are found. It therefore excites wonder, how birds, which are graminivorous in every other than those frost-bound regions, subsist: yet are there found in great flocks both on the land and ice of Spitzbergen.* They annually pass to this country by way of Norway; for, in the spring, flocks innumerable appear, especially on the Norwegian isles, continue only three weeks, and then at once disappear.† As they do not breed in Hudson's Bay, it is certain that many retreat to this last of lands, and totally uninhabited, to perform, in full security, the duties of love, incubation, and nutrition. That they breed in Spitzbergen, is very probable; but we are assured that they do so in Greenland. They arrive there in April, and make their nests in the fissures of the rocks, on the mountains, in May; the outside of their nest is grass, the middle of feathers, and the lining the down of the Arctic fox. They lay five eggs, white, spotted with brown: they sing finely near their nest.

"They are caught by the boys in autumn when they collect near the shores in great flocks, in order to migrate; and are eaten dried.‡

"In Europe, they inhabit, during summer, the most naked Lapland Alps, and descend in rigorous seasons into Sweden, and fill the roads and fields; on which account the Dalecarlians call them *illwarsfogel*, or bad-weather birds—the Uplanders, *hardwarsfogel*, expressive of the same. The Laplanders style them *alaipg*. Leems§ remarks, I know not with what foundation, that they fatten on the flowing of the tides in Finmark, and grow lean on the ebb. The Laplanders take them in great numbers in hairsprings, for the tables, their flesh being very delicate.

"They seem to make the countries within the whole Arctic circle their summer residence, from whence they

* Lord MULGRAVE's *Voyage*, 188; MARTIN's *Voyage*, 73.

† LEEMS, 256.

‡ FAUN. *Greenland*, 118.

§ *Finmark*, 255.

overflow the more southern countries in amazing multitudes, at the setting in of winter in the frigid zone. In the winter of 1778-9, they came in such multitudes into Birsa, one of the Orkney islands, as to cover the whole barony; yet of all the numbers, hardly two agreed in colours.

“ Lapland, and perhaps Iceland, furnishes the north of Britain with the swarms that frequent these parts during winter, as low as the Cheviot hills, in lat. 52° 32'. Their resting places, the Feroe isles, Schetland, and the Orkneys. The Highlands of Scotland, in particular, abound with them. Their flights are immense, and they mingle so closely together in form of a ball, that the fowlers make great havoc among them. They arrive lean, soon become very fat, and are delicious food. They either arrive in the Highlands very early, or a few breed there, for I had one shot for me at Invercauld, the 4th of August. But there is a certainty of their migration; for multitudes of them fall, wearied with their passage, on the vessels that are sailing through the Pentland Firth.*

“ In their summer dress, they are sometimes seen in the south of England,† the climate not having severity sufficient to affect the colours; yet now and then a milk white one appears, which is usually mistaken for a white lark.

“ Russia and Siberia receive them in their severe seasons annually, in amazing flocks, overflowing almost all Russia. They frequent the villages, and yield a most luxurious repast. They vary there infinitely in their winter colours, are pure white, speckled, and even quite brown.‡ This seems to be the influence of difference of age more than of season. Germany has also its share of them. In Austria, they are caught and fed with millet, and afford the epicure a treat equal to that of the ortolan.”§

* BISHOP POCOCK's *Journal*, MS.

† MORTON's *Northamp.* p. 427.

‡ BELL's *Travels*, i, 198.

§ KRAMER, *Anim. Austr.* 372.

These birds appear in the northern districts of the United States early in December, or with the first heavy snow, particularly if drifted by high winds. They are usually called the *white* snow bird, to distinguish them from the small dark bluish snow bird. Their numbers increase with the increasing severity of weather, and depth of snow. Flocks of them sometimes reach as far south as the borders of Maryland; and the whiteness of their plumage is observed to be greatest towards the depth of winter. They spread over the Genesee country and the interior of the district of Maine, flying in close compact bodies, driving about most in a high wind; sometimes alighting near the doors, but seldom sitting long, being a roving, restless bird. In these plentiful regions, where more valuable game is abundant, they hold out no temptation to the sportsman or hunter; and except the few caught by boys in snares, no other attention is paid to them. They are, however, universally considered as the harbingers of severe cold weather. How far westward they extend I am unable to say. One of the most intelligent and expert hunters who accompanied Captains Lewis and Clark on their expedition to the Pacific Ocean, informs me, that he has no recollection of seeing these birds in any part of their tour, not even among the bleak and snowy regions of the Stony mountains; though the little blue one was in abundance.

The snow bunting derives a considerable part of its food from the seeds of certain aquatic plants, which may be one reason for its preferring these remote northern countries, so generally intersected with streams, ponds, lakes, and shallow arms of the sea, that probably abound with such plants. In passing down the Seneca river towards Lake Ontario, late in the month of October, I was surprised by the appearance of a large flock of these birds feeding on the surface of the water, supported on the tops of a growth of weeds that rose from the bottom, growing so close together that our boat could with great difficulty make its way through them. They were running about with great activity; and those I shot

and examined, were filled, not only with the seeds of this plant, but with a minute kind of shell fish that adheres to the leaves. In these kind of aquatic excursions they are doubtless greatly assisted by the length of their hind heel and claws. I also observed a few on Table Rock, above the Falls of Niagara, seemingly in search of the same kind of food.

According to the statements of those traders who have resided near Hudson's Bay, the snow buntings are the earliest of their migratory birds, appearing there about the 11th of April, staying about a month or five weeks, and proceeding farther north to breed. They return again in September, stay till November, when the severe frosts drive them southward.*

The summer dress of the snow bunting is a tawny brown, interspersed with white, covering the head, neck, and lower parts; the back is black, each feather being skirted with brown; wings and tail, also black, marked in the following manner:—the three secondaries next the body are bordered with bay, the next with white, and all the rest of the secondaries, as well as their coverts, and shoulder of the wing, pure white; the first six primaries are black from their coverts downwards to their extremities; tail, forked, the three exterior feathers, on each side, white, marked on the outer edge, near the tip, with black; the rest, nearly all black; tail-coverts, reddish brown, fading into white; bill, pale brown; legs and feet, black; hind claw long, like that of the lark, though more curved. In winter, they become white on the head, neck, and whole under side, as well as great part of the wings and rump; the back continues black, skirted with brown. Some are even found pure white. Indeed, so much does their plumage vary according to age and season, that no two are found at any time alike.

* *London Philosophical Transactions*, lxii, 403.

GENUS XXXII. — *TANAGRA*, LINNÆUS.SUBGENUS *PYRANGA*, VIEILL.155. *TANAGRA RUBRA*, WILSON. — SCARLET TANAGER.

WILSON, PLATE XI. FIG. III. MALE. — FIG. IV. FEMALE.

EDINBURGH COLLEGE MUSEUM.

THIS is one of the gaudy foreigners, (and perhaps the most showy,) that regularly visit us from the torrid regions of the south. He is drest in the richest scarlet, set off with the most jetty black, and comes, over extensive countries, to sojourn for a time among us. While we consider him entitled to all the rights of hospitality, we may be permitted to examine a little into his character, and endeavour to discover, whether he has any thing else to recommend him, besides that of having a fine coat, and being a great traveller.

On or about the 1st of May, this bird makes his appearance in Pennsylvania. He spreads over the United States, and is found even in Canada. He rarely approaches the habitations of man, unless, perhaps, to the orchard, where he sometimes builds; or to the cherry trees, in search of fruit. The depth of the woods is his favourite abode. There, among the thick foliage of the tallest trees, his simple, and almost monotonous notes, *chip, churr*, repeated at short intervals, in a pensive tone, may be occasionally heard, which appear to proceed from a considerable distance, though the bird be immediately above you; a faculty bestowed on him by the beneficent Author of Nature, no doubt for his protection, to compensate, in a degree, for the danger to which his glowing colour would often expose him. Besides this usual note, he has, at times, a more musical chant, something resembling in mellowness that of the Baltimore oriole. His food consists of large, winged insects, such as wasps, hornets, and humble bees, and also of fruit, particularly those of that species of *vaccinium* usually called huckle-berries, which, in their season, form almost his whole fare. His nest is built about the middle of May, on the horizontal branch of a

tree, sometimes an apple tree, and is but slightly put together ; stalks of broken flax, and dry grass, so thinly wove together, that the light is easily perceivable through it, form the repository of his young. The eggs are three, of a dull blue, spotted with brown or purple. They rarely raise more than one brood in a season, and leave us for the south about the last week in August.

Among all the birds that inhabit our woods, there is none that strikes the eye of a stranger, or even a native, with so much brilliancy as this. Seen among the green leaves, with the light falling strongly on his plumage, he really appears beautiful. If he has little of melody in his notes to charm us, he has nothing in them to disgust. His manners are modest, easy, and inoffensive. He commits no depredations on the property of the husbandman, but rather benefits him by the daily destruction, in spring, of many noxious insects ; and, when winter approaches, he is no plundering dependant, but seeks, in a distant country, for that sustenance which the severity of the season denies to his industry in this. He is a striking ornament to our rural scenery, and none of the meanest of our rural songsters. Such being the true traits of his character, we shall always with pleasure welcome this beautiful, inoffensive stranger to our orchards, groves, and forests.

The male of this species, when arrived at his full size and colours, is six inches and a half in length, and ten and a half broad. The whole plumage is of a most brilliant scarlet, except the wings and tail, which are of a deep black ; the latter, handsomely forked, sometimes minutely tipped with white, and the interior edges of the wing feathers nearly white ; the bill is strong, considerably inflated, like those of his tribe, the edge of the upper mandible, somewhat irregular, as if toothed, and the whole of a dirty gamboge, or yellowish horn colour ; this, however, like that of most other birds, varies according to the season. About the 1st of August he begins to moult ; the young feathers coming out, of a greenish yellow colour, until he appears nearly all dappled with spots of scarlet and greenish yellow. In this state of plumage he leaves us. How long it is

before he recovers his scarlet dress, or whether he continues of this greenish colour all winter, I am unable to say. The iris of the eye is of a cream colour, the legs and feet, light blue. The female is green above, and yellow below; the wings and tail, brownish black, edged with green. The young birds, during their residence here the first season, continue nearly of the same colour with the female. In this circumstance we again recognize the wise provision of the Deity, in thus clothing the female, and the inexperienced young, in a garb so favourable for concealment among the foliage; as the weakness of the one, and the frequent visits of the other to her nest, would greatly endanger the safety of all. That the young males do not receive their red plumage until the early part of the succeeding spring, I think highly probable, from the circumstance of frequently finding their red feathers, at that season, intermixed with green ones, and the wings also broadly edged with green. These facts render it also probable that the old males regularly change their colour, and have a summer and winter dress; but this, farther observations must determine.

There is in the Brazils a bird of the same genus with this, and very much resembling it, so much so as to have been frequently confounded with it by European writers. It is the *tanagra Brazilia* of Turton; and, though so like, is yet a very distinct species from the present, as I have myself had the opportunity of ascertaining, by examining two very perfect specimens from Brazil, now in the possession of Mr Peale, and comparing them with this. The principal differences are these: The plumage of the Brazilian is almost black at bottom, very deep scarlet at the surface, and of an orange tint between; ours is ash coloured at bottom, white in the middle, and bright scarlet at top. The tail of ours is forked, that of the other, cuneiform, or rounded. The bill of our species is more inflated, and of a greenish yellow colour; the other's is black above, and whitish below, towards the base. The whole plumage of the southern species is of a coarser, stiffer quality, particularly on the head. The wings and tail, in both, are black.

In the account which Buffon gives of the scarlet tanager, and cardinal grosbeak, there appears to be very great confusion, and many mistakes; to explain which, it is necessary to observe, that Mr Edwards, in his figure of the scarlet tanager, or scarlet sparrow, as he calls it, has given it a hanging crest, owing, no doubt, to the loose, disordered state of the plumage of the stuffed or dried skin from which he made his drawing. Buffon has afterwards confounded the two together, by applying many stories, originally related of the cardinal grosbeak, to the scarlet tanager; and the following he gravely gives as his reason for so doing: "We may presume," says he, "that when travellers talk of the warble of the cardinal, they mean the scarlet cardinal, for the other cardinal is of the genus of the grosbeaks, consequently a silent bird."* This silent bird, however, has been declared by an eminent English naturalist, to be almost equal to their own nightingale! The Count also quotes the following passage from Charlevoix to prove the same point, which, if his translator has done him justice, evidently proves the reverse. "It is scarcely more than a hundred leagues," says this traveller, "south of Canada, that the cardinal begins to be seen. Their song is sweet, their plumage beautiful, and their head wears a crest." But the scarlet tanager is found even in Canada, as well as an hundred leagues to the south, while the cardinal grosbeak is not found in any great numbers north of Maryland. The latter, therefore, it is highly probable, was the bird meant by Charlevoix; and not the scarlet tanager. Buffon also quotes an extract of a letter from Cuba, which, if the circumstance it relates be true, is a singular proof of the estimation in which the Spaniards hold the cardinal grosbeak. "On Wednesday arrived at the port of Havannah, a bark from Florida, loaded with cardinal birds, skins, and fruit. The Spaniards bought the cardinal birds at so high a price as ten dollars a-piece; and, notwithstanding the public distress, spent on them the sum of 18,000 dollars!"†

* BUFFON, vol. iv, p. 209.

† GMELLI CARERI.

With a few facts more I shall conclude the history of the scarlet tanager : When you approach the nest, the male keeps cautiously at a distance, as if fearful of being seen ; while the female hovers around in the greatest agitation and distress. When the young leave the nest, the male parent takes a most active part in feeding and attending them, and is then altogether indifferent of concealment.

Passing through an orchard one morning, I caught one of these young birds, that had but lately left the nest. I carried it with me about half a mile, to shew it to my friend, Mr William Bartram ; and, having procured a cage, hung it up on one of the large pine trees in the botanic garden, within a few feet of the nest of an orchard oriole, which also contained young ; hopeful that the charity or tenderness of the orioles would induce them to supply the cravings of the stranger. But charity with them, as with too many of the human race, began and ended at home. The poor orphan was altogether neglected, notwithstanding its plaintive cries ; and, as it refused to be fed by me, I was about to return it back to the place where I found it, when, towards the afternoon, a scarlet tanager, no doubt its own parent, was seen fluttering round the cage, endeavouring to get in. Finding this impracticable, he flew off, and soon returned with food in his bill ; and continued to feed it till after sunset, taking up his lodgings on the higher branches of the same tree. In the morning, almost as soon as day broke, he was again seen most actively engaged in the same affectionate manner ; and, notwithstanding the insolence of the orioles, continued his benevolent offices the whole day, roosting at night as before. On the third or fourth day, he appeared extremely solicitous for the liberation of his charge, using every expression of distressful anxiety, and every call and invitation that nature had put in his power for him to come out. This was too much for the feelings of my venerable friend ; he procured a ladder, and mounting to the spot where the bird was suspended, opened the cage, took out the prisoner, and restored

him to liberty and to his parent, who, with notes of great exultation, accompanied his flight to the woods. The happiness of my good friend was scarcely less complete, and shewed itself in his benevolent countenance; and I could not refrain saying to myself,—If such sweet sensations can be derived from a simple circumstance of this kind, how exquisite, how unspeakably rapturous, must the delight of those individuals have been, who have rescued their fellow beings from death, chains, and imprisonment, and restored them to the arms of their friends and relations! Surely, in such godlike actions, virtue is its own most abundant reward.

156. *TANAGRA AESTIVA*, GM. AND WILS. — SUMMER RED-BIRD.

WILSON, PLATE VI. FIG. III. MALE. — FIG. IV. FEMALE.

THE change of colour which this bird is subject to during the first year, and the imperfect figure first given of it by Catesby, have deceived the European naturalists so much, that four different species have been formed out of this one.

The male of the summer red-bird is wholly of a rich vermilion colour, most brilliant on the lower parts, except the inner vanes and tips of the wings, which are of a dusky brown; the bill is disproportionably large, inflated, the upper mandible furnished with a process, and the whole bill of a yellowish horn colour; the legs and feet are light blue, inclining to purple; the eye, large, the iris of a light hazel colour; the length of the whole bird, seven inches and a quarter; and between the tips of the expanded wings, twelve inches. The female differs little in size from the male; but is, above, of a brownish yellow olive, lightest over the eye; throat, breast, and whole lower part of the body, of a dull orange yellow; tips and interior vanes of the wings, brown; bill, legs, and eye, as in the male. The nest is built in the woods, on the horizontal branch of a half-grown tree, often an evergreen, at the height of ten or twelve feet from the ground; composed, outwardly,

of broken stalks of dry flax, and lined with fine grass ; the female lays three light blue eggs ; the young are produced about the middle of June ; and I suspect that the same pair raise no more than one brood in a season, for I have never found their nests but in May or June. Towards the middle of August, they take their departure for the south, their residence here being scarcely four months. The young are, at first, of a green olive above, nearly the same colour as the female below, and do not acquire their full tints till the succeeding spring or summer.

The change, however, commences the first season before their departure. In the month of August, the young males are distinguished from the females by their motley garb ; the yellow plumage below, as well as the olive green above, first becoming stained with spots of a buff colour, which gradually brighten into red ; these being irregularly scattered over the whole body, except the wings and tail, particularly the former, which I have often found to contain four or five green quills in the succeeding June. The first of these birds I ever shot was green winged ; and conceiving it at that time to be a nondescript, I made a drawing of it with care ; and on turning to it at this moment, I find the whole of the primaries, and two of the secondaries, yellowish green, the rest of the plumage a full red. This was about the middle of May. In the month of August, of the same year, being in the woods with my gun, I perceived a bird of very singular plumage, and having never before met with such an oddity, instantly gave chase to it. It appeared to me, at a small distance, to be sprinkled all over with red, green, and yellow. After a great deal of difficulty, for the bird had taken notice of my eagerness, and had become extremely shy, I succeeded in bringing it down ; and found it to be a young bird of the same species with the one I had killed in the preceding May, but less advanced to its fixed colours ; the wings entirely of a greenish yellow, and the rest of the plumage spotted, in the most irregular manner, with red, yellow, brown, and greenish. Having,

since that time, seen them in all their stages of colour, during their residence here, I have the more satisfaction in assuring the reader that the whole four species mentioned by Dr Latham are one and the same.

The food of these birds consists of various kinds of bugs, and large black beetles. In several instances, I have found the stomach entirely filled with the broken remains of humble bees. During the season of whortleberries, they seem to subsist almost entirely on these berries; but, in the early part of the season, on insects of the above description. In Pennsylvania, they are a rare species, having myself sometimes passed a whole summer without seeing one of them; while in New Jersey, even within half a mile of the shore opposite the city of Philadelphia, they may generally be found during the season.

The note of the male is a strong and sonorous whistle, resembling a loose trill or shake on the notes of a fife, frequently repeated; that of the female is rather a kind of chattering, approaching nearly to the rapid pronunciation of *chicky-tucky-tuck, chicky-tucky-tuck*, when she sees any person approaching the neighbourhood of her nest. She is, however, rarely seen, and usually mute, and scarcely to be distinguished from the colour of the foliage at a distance; while the loquacity and brilliant red of the male make him very conspicuous; and when seen among the green leaves, particularly if the light falls strongly on his plumage, he has a most beautiful and elegant appearance. It is worthy of remark, that the females of almost all our splendid feathered birds are drest in plain and often obscure colours, as if Providence meant to favour their personal concealment, and, consequently, that of their nest and young, from the depredations of birds of prey; while, among the latter, such as eagles, owls, hawks, &c. which are under no such apprehension, the females are uniformly covered with richer coloured plumage than the males.

The summer red-bird delights in a flat sandy country covered with wood, and interspersed with pine trees; and is, consequently, more numerous towards the shores

of the Atlantic than in the interior. In both Carolinas, and in Georgia and Florida, they are in great plenty. In Mexico some of them are probably resident, or, at least, winter there, as many other of our summer visitants are known to do. In the northern States they are very rare; and I do not know that they have been found either in Upper or Lower Canada. Du Pratz, in his *History of Louisiana*, has related some particulars of this bird, which have been repeated by almost every subsequent writer on the subject, viz. that "it inhabits the woods on the Mississippi, and collects against winter a vast magazine of maize, which it carefully conceals with dry leaves, leaving only a small hole for entrance; and is so jealous of it, as never to quit its neighbourhood except to drink." It is probable, though I cannot corroborate the fact, that individuals of this species may winter near the Mississippi; but that, in a climate so moderate, and where such an exuberance of fruits, seeds, and berries, is to be found, even during winter, this, or any other bird, should take so much pains in hoarding a vast quantity of Indian corn, and attach itself so closely to it, is rather apocryphal. The same writer, vol. ii, p. 94, relates similar particulars of the cardinal grosbeak, (*loxia cardinalis*,) which, though it winters in Pennsylvania, where the climate is much more severe, and where the length and rigours of that season would require a far larger magazine, and be a threefold greater stimulus to hoarding, yet has no such habit here. Besides, I have never found a single grain of Indian corn in the stomach of the summer red-bird, though I have examined many individuals of both sexes. On the whole, I consider this account of Du Pratz's in much the same light with that of his countryman, Charlevoix, who gravely informs us, that the owls of Canada lay up a store of live mice for winter; the legs of which they first break, to prevent them from running away, and then feed them carefully, and fatten them, till wanted for use.*

* *Travels in Canada*, vol. i, p. 220. Lond. 1761. 8vo.

Its manners—though neither its bill nor tongue—partake very much of those of the flycatcher; for I have frequently observed both male and female, a little before sunset, in parts of the forest clear of underwood, darting after winged insects, and continuing thus engaged till it was almost dusk.

157. *TANAGRA LUDOVICIANA*, WILSON. — LOUISIANA TANAGER.

WILSON, PLATE XX. FIG. I.

THIS bird, together with Clark's crow, and Lewis's woodpecker, as has already been mentioned, were discovered, in the remote regions of Louisiana, by the exploring party under the command of Captain George Merriwether Lewis, and Lieutenant, now General, William Clark, in their memorable expedition across the continent to the Pacific Ocean.

The frail remains of the bird now under consideration, as well as of the other two, have been set up by Mr Peale, in his museum, with as much neatness as the state of the skins would permit. Of three of these which were put into my hands for examination, the most perfect was selected for a drawing. Its size and markings were as follow :—Length, six inches and a half; back, tail, and wings, black; the greater wing-coverts, tipped with yellow; the next superior row, wholly yellow; neck, rump, tail-coverts, and whole lower parts, greenish yellow; forepart of the head, to and beyond the eyes, light scarlet; bill, yellowish horn colour; edges of the upper mandible, ragged, as in the rest of its tribe; legs, light blue; tail, slightly forked, and edged with dull whitish: the whole figure about the size, and much resembling in shape, the scarlet tanager already described; but evidently a different species, from the black back, and yellow coverts. Some of the feathers on the upper part of the back were also skirted with yellow. A skin of what I supposed to be the female, or a young bird, differed in having the wings and back brownish, and in being rather less.

The family, or genus, to which this bird belongs, is

particularly subject to changes of colour, both progressively, during the first and second seasons; and also periodically, afterwards. Some of those that inhabit Pennsylvania change from an olive green to a greenish yellow; and, lastly, to a brilliant scarlet; and I confess, when the preserved specimen of the present species was first shewn me, I suspected it to have been passing through a similar change at the time it was taken. But, having examined two more skins of the same species, and finding them all marked very nearly alike, which is seldom the case with those birds that change while moulting, I began to think that this might be its most permanent, or, at least, its summer or winter dress.

The little information I have been able to procure of the species generally, or at what particular season these were shot, prevents me from being able to determine this matter to my wish.

I can only learn, that they inhabit the extensive plains or prairies of the Missouri, between the Osage and Mandan nations; building their nests in low bushes, and often among the grass. With us the tanagers usually build on the branches of a hickory or white oak sapling. These birds delight in various kinds of berries, with which those rich prairies are said to abound.

GENUS XXXIII.—*FRINGILLA*, LINNÆUS.

SUBGENUS I.—*SPIZA*, BONAPARTE.

158. *FRINGILLA CYANEA*, WILSON.—INDIGO BIRD.

WILSON, PLATE VI. FIG. V.

THIS is another of those rich plumaged tribes that visit us in spring from the regions of the south. It arrives in Pennsylvania on the second week in May, and disappears about the middle of September. It is numerous in all the settled parts of the middle and eastern States; in the Carolinas and Georgia it is also abundant. Though Catesby says that it is only found at a great distance from the sea, yet round the city of New York, and in many places along the shores of New Jersey, I have met with them in plenty. I may also add,

on the authority of Mr William Bartram, that "they inhabit the continent and sea-coast islands, from Mexico to Nova Scotia, from the sea-coast west beyond the Apalachian and Cherokee mountains."* They are also known in Mexico, where they probably winter. Its favourite haunts, while with us, are about gardens, fields of deep clover, the borders of woods, and roadsides, where it is frequently seen perched on the fences. In its manners, it is extremely active and neat, and a vigorous and pretty good songster. It mounts to the highest top of a large tree, and chants for half an hour at a time. Its song is not one continued strain, but a repetition of short notes, commencing loud and rapid, and falling, by almost imperceptible gradations, for six or eight seconds, till they seem hardly articulate, as if the little minstrel were quite exhausted; and, after a pause of half a minute or less, commences again as before. Some of our birds sing only in spring, and then chiefly in the morning, being comparatively mute during the heat of noon; but the indigo bird chants with as much animation under the meridian sun, in the month of July, as in the month of May; and continues his song, occasionally, to the middle or end of August. His usual note, when alarmed by an approach to his nest, is a sharp *chip*, like that of striking two hard pebbles smartly together.

Notwithstanding the beauty of his plumage, the vivacity with which he sings, and the ease with which he can be reared and kept, the Indigo bird is seldom seen domesticated. The few I have met with were taken in trap cages; and such of any species rarely sing equal to those which have been reared by hand from the nest. There is one singularity which may be mentioned here, viz. that, in some certain lights, his plumage appears of a rich sky blue, and in others of a vivid verdigris green; so that the same bird, in passing from one place to another before your eyes, seems to undergo a total change of colour. When the angle of incidence of the rays of light, reflected from his plumage, is

* *Travels*, p. 299.

acute, the colour is green, when obtuse, blue. Such, I think, I have observed to be uniformly the case, without being optician enough to explain why it is so. From this, however, must be excepted the colour of the head, which, being of a very deep blue, is not affected by a change of position.

The nest of this bird is usually built in a low bush, among rank grass, grain, or clover, suspended by two twigs, one passing up each side; and is composed outwardly of flax, and lined with fine dry grass. The eggs, generally five, are blue, with a blotch of purple at the great end.

The indigo bird is five inches long, and seven inches in extent; the whole body is of a rich sky blue, deepening on the head to an ultramarine, with a tinge of purple; the blue on the body, tail, and wings, varies in particular lights to a light green, or verdigris colour, similar to that on the breast of a peacock; wings, black, edged with light blue, and becoming brownish towards the tips; lesser coverts, light blue; greater, black, broadly skirted with the same blue; tail, black, exteriorly edged with blue; bill, black above, whitish below, somewhat larger in proportion than finches of the same size usually are, but less than those of the genus *emberiza*, with which Mr Pennant has classed it, though, I think, improperly, as the bird has much more of the form and manners of the genus *fringilla*, where I must be permitted to place it; legs and feet, blackish brown. The female is of a light flaxen colour, with the wings dusky black, and the cheeks, breast, and whole lower parts, a clay colour, with streaks of a darker colour under the wings, and tinged in several places with bluish. Towards fall, the male, while moulting, becomes nearly of the colour of the female, and in one which I kept through the winter, the rich blue plumage did not return for more than two months; though I doubt not, had the bird enjoyed his liberty and natural food under a warm sun, this brownness would have been of shorter duration. The usual food of this species is insects and various kinds of seeds.

159. *FRINGILLA CIRIS*, WILSON AND TEMMINCK.

PAINTED BUNTING.

WILSON, PLATE XXIV. FIG. I. MALE. — FIG. II. FEMALE.

THIS is one of the most numerous of the little summer birds of Lower Louisiana, where it is universally known among the French inhabitants, and called by them "le pape," and by the Americans the non-pareil. Its gay dress and docility of manners have procured it many admirers; for these qualities are strongly attractive, and carry their own recommendations always along with them. The low countries of the Southern States, in the vicinity of the sea, and along the borders of our large rivers, particularly among the rice plantations, are the favourite haunts of this elegant little bird. A few are seen in North Carolina; in South Carolina they are more numerous; and still more so in the lower parts of Georgia. To the westward, I first met them at Natchez, on the Mississippi, where they seemed rather scarce. Below Baton Rouge, along the levee, or embankment of the river, they appeared in great numbers; and continued to become more common as I approached New Orleans, where they were warbling from almost every fence, and crossing the road before me every few minutes. Their notes very much resemble those of the indigo bird; but want the strength and energy of the latter, being more feeble and more concise.

I found these birds very commonly domesticated in the houses of the French inhabitants of New Orleans; appearing to be the most common cage bird they have. The negroes often bring them to market, from the neighbouring plantations, for sale; either in cages, taken in traps, or in the nest. A wealthy French planter, who lives on the banks of the Mississippi, a few miles below Bayo Fourche, took me into his garden, which is spacious and magnificent, to shew me his aviary; where, among many of our common birds, I

observed several nonpareils, two of which had nests, and were then hatching.

Were the same attention bestowed on these birds as on the canary, I have no doubt but they would breed with equal facility, and become equally numerous and familiar, while the richness of their plumage might compensate for their inferiority of song. Many of them have been transported to Europe; and I think I have somewhere read, that in Holland attempts have been made to breed them, and with success. When the employments of the people of the United States become more sedentary, like those of Europe, the innocent and agreeable amusement of keeping and rearing birds in this manner will become more general than it is at present, and their manners better known. And I cannot but think, that an intercourse with these little innocent warblers is favourable to delicacy of feeling, and sentiments of humanity; for I have observed the rudest and most savage softened into benevolence while contemplating the interesting manners of these inoffensive little creatures.

Six of these birds, which I brought with me from New Orleans by sea, soon became reconciled to the cage. In good weather, the males sung with great sprightliness, though they had been caught only a few days before my departure. They were greedily fond of flies, which accompanied us in great numbers during the whole voyage; and many of the passengers amused themselves with catching these and giving them to the nonpareils; till, at length, the birds became so well acquainted with this amusement, that as soon as they perceived any of the people attempting to catch flies, they assembled at the front of the cage, stretching out their heads through the wires with eager expectation, evidently much interested in the issue of their efforts.

These birds arrive in Louisiana, from the south, about the middle of April, and begin to build early in May. In Savannah, according to Mr Abbot, they arrive about the 20th of April. Their nests are usually fixed in orange hedges, or on the lower branches of

the orange tree; I have also found them in a common bramble or blackberry bush. They are formed exteriorly of dry grass, intermingled with the silk of caterpillars, lined with hair, and lastly with some extremely fine roots of plants. The eggs are four or five, white, or rather pearl coloured, marked with purplish brown specks. As some of these nests had eggs so late as the 25th of June, I think it probable that they sometimes raise two brood in the same season. The young birds of both sexes, during the first season, are of a fine green olive above, and dull yellow below. The females undergo little or no change, but that of becoming of a more brownish cast. The males, on the contrary, are long and slow in arriving at their full variety of colours. In the second season, the blue on the head begins to make its appearance, intermixed with the olive green: the next year, the yellow shews itself on the back and rump; and also the red, in detached spots, on the throat and lower parts. All these colours are completed in the fourth season, except, sometimes, that the green still continues on the tail. On the fourth and fifth season, the bird has attained his complete colours. No dependence, however, can be placed on the regularity of this change in birds confined in a cage, as the want of proper food, sunshine, and variety of climate, all conspire against the regular operations of nature.

The nonpareil is five inches and three quarters long, and eight inches and three quarters in extent; head, neck above, and sides of the same, a rich purplish blue; eyelid, chin, and whole lower parts, vermilion; back and scapulars, glossy yellow, stained with rich green, and in old birds with red; lesser wing-coverts, purple; larger, green; wings, dusky red, sometimes edged with green; lower part of the back, rump, and tail-coverts, deep glossy red, inclining to carmine; tail, slightly forked, purplish brown (generally green;) legs and feet, leaden gray; bill, black above, pale blue below; iris of the eye, hazel.

The female is five and a half inches long, and eight

inches in extent; upper parts, green olive, brightest on the rump; lower parts, a dusky Naples yellow, brightest on the belly; and tinged considerably on the breast with dull green, or olive; cheeks, or ear-feathers, marked with lighter touches; bill, wholly a pale lead colour, lightest below; legs and feet, the same.

The food of these birds consists of rice, insects, and various kinds of seeds that grow luxuriantly in their native haunts. I also observed them eating the seeds or internal grains of ripe figs. They frequent gardens, building within a few paces of the house; are particularly attached to orangeries; and chant occasionally during the whole summer. Early in October they retire to more southern climates, being extremely susceptible of cold.

160. *FRINGILLA AMERICANA*, BONAPARTE.

EMBERIZA AMERICANA, WILS. — BLACK-THROATED BUNTING.

WILSON, PLATE III. FIG. II.

OF this bird I have but little to say. They arrive in Pennsylvania from the south about the middle of May; abound in the neighbourhood of Philadelphia, and seem to prefer level fields covered with rye-grass, timothy, or clover, where they build their nest, fixing it in the ground, and forming it of fine dried grass. The female lays five white eggs, sprinkled with specks and lines of black. Like most part of their genus, they are nowise celebrated for musical powers. Their whole song consists of five notes, or, more properly, of two notes; the first repeated twice and slowly, the second thrice, and rapidly, resembling *chip, chip, che che ché*. Of this ditty, such as it is, they are by no means parsimonious, for, from their first arrival for the space of two or three months, every level field of grain or grass is perpetually serenaded with *chip, chip, che che ché*. In their shape and manners they very much resemble the yellow-hammer of Britain (*E. citrinella*;) like them, they are fond of mounting to the top of

some half-grown tree, and there chirruping for half an hour at a time. In travelling through different parts of New York and Pennsylvania in spring and summer, wherever I came to level fields of deep grass, I have constantly heard these birds around me. In August they become mute; and soon after, that is, towards the beginning of September, leave us altogether.

The black-throated bunting is six inches and a half in length; the upper part of the head is of a dusky greenish yellow; neck, dark ash; breast, inside shoulders of the wing, line over the eye, and at the lower angle of the bill, yellow; chin, and space between the bill and eye, white; throat, covered with a broad, oblong, somewhat heart-shaped patch of black, bordered on each side with white; back, rump, and tail, ferruginous, the first streaked with black; wings, deep dusky, edged with a light clay colour; lesser coverts and whole shoulder of the wing, bright bay; belly and vent, dull white; bill, light blue, dusky above, strong and powerful for breaking seeds; legs and feet, brown; iris of the eye, hazel. The female differs from the male in having little or no black on the breast, nor streak of yellow over the eye; beneath the eye she has a dusky streak, running in the direction of the jaw. In all those I opened, the stomach was filled with various seeds, gravel, eggs of insects, and sometimes a slimy kind of earth or clay.

This bird has been figured by Latham, Pennant, and several others. The former speaks of a bird which he thinks is either the same, or nearly resembling it, that resides in summer in the country about Hudson's Bay, and is often seen associating in flights with the geese; * this habit, however, makes me suspect that it must be a different species; for while with us here the black-throated bunting is never gregarious; but is almost always seen singly, or in pairs, or at most, the individuals of one family together.

* LATHAM, *Synopsis, Supplement*, p. 158.

161. *FRINGILLA LEUCOPHRYS*, TEMMINCK.*EMBERIZA LEUCOPHRYS*, WILSON. — WHITE-CROWNED BUNTING.

WILSON, PLATE XXXI. FIG. IV.

THIS beautifully marked species is one of the rarest of its tribe in the United States, being chiefly confined to the northern districts, or higher interior parts of the country, except in severe winters, when some few wanderers appear in the lower parts of the State of Pennsylvania. Of three specimens of this bird, the only ones I have yet met with, the first was caught in a trap near the city of New York, and lived with me several months. It had no song, and, as I afterwards discovered, was a female. Another, a male, was presented to me by Mr Michael of Lancaster, Pennsylvania. The third, a male, and in complete plumage, was shot in the Great Pine Swamp, in the month of May. It appeared to me to be unsuspicious, silent, and solitary; flitting in short flights among the underwood and piles of prostrate trees, torn up by a tornado, that some years ago passed through the swamp. All my endeavours to discover the female or nest were unsuccessful.

From the great scarcity of this species, our acquaintance with its manners is but very limited. Those persons who have resided near Hudson's Bay, where it is common, inform us, that it makes its nest in June, at the bottom of willows, and lays four chocolate-coloured eggs. Its flight is said to be short and silent; but, when it perches, it sings very melodiously.*

The white-crowned bunting is seven inches long, and ten inches in extent; the bill, a cinnamon brown; crown, from the front to the hind head, pure white, bounded on each side by a stripe of black proceeding from each nostril; and these again are bordered by a stripe of pure white passing over each eye to the hind head, where they meet; below this, another narrow

* *Arctic Zoology.*

stripe of black passes from the posterior angle of the eye, widening as it descends to the hind head; chin, white; breast, sides of the neck, and upper parts of the same, very pale ash; back, streaked laterally with dark rusty brown and pale bluish white; wings, dusky, edged broadly with brown; the greater and lesser coverts tipped broadly with white, forming two handsome bands across the wing; tertials, black, edged with brown and white; rump and tail-coverts, drab, tipped with a lighter tint; tail, long, rounded, dusky, and edged broadly with drab; belly, white; vent, pale yellow ochre; legs and feet, reddish brown; eye, reddish hazel; lower eyelid, white.

The female may easily be distinguished from the male, by the white on the head being less pure, the black also less in extent, and the ash on the breast darker; she is also smaller in size.

There is a considerable resemblance between this species and the white-throated sparrow. Yet they rarely associate together; the latter remaining in the lower parts of Pennsylvania in great numbers, until the beginning of May, when they retire to the north and to the high inland regions to breed; the former inhabiting much more northern countries; and though said to be common in Canada, rarely visiting this part of the United States.

162. *PRINGILLA GRAMINEA*, GMELIN.

EMBERIZA GRAMINEA, WILSON. — BAY-WINGED BUNTING.

WILSON, PLATE XXXI. FIG. V.

THE manners of this bird bear great affinity to those of the common bunting of Britain. It delights in frequenting grass and clover fields, perches on the tops of the fences, singing, from the middle of April to the beginning of July, with a clear and pleasant note, in which particular it far excels its European relation. It is partially a bird of passage here, some leaving us, and others remaining with us during the winter. In

the month of March I observed them numerous in the lower parts of Georgia, where, according to Mr Abbot, they are only winter visitants. They frequent the middle of fields more than hedges or thickets; run along the ground like a lark, which they also resemble in the great breadth of their wings: they are timid birds; and rarely approach the farm house.

Their nest is built on the ground, in a grass or clover field, and formed of old withered leaves and dry grass; and lined with hair. The female lays four or five eggs of a grayish white. On the first week in May, I found one of their nests with four young, from which circumstance I think it probable that they raise two or more brood in the same season.

This bird measures five inches and three quarters in length, and ten inches and a half in extent; the upper parts are cinereous brown, mottled with deep brown or black; lesser wing-coverts, bright bay, greater, black, edged with very pale brown; wings, dusky, edged with brown; the exterior primary, edged with white; tail, subcuneiform, the outer feather white on the exterior edge, and tipped with white, the next tipped and edged for half an inch with the same, the rest, dusky, edged with pale brown; bill, dark brown above, paler below; round the eye is a narrow circle of white; upper part of the breast yellowish white, thickly streaked with pointed spots of black that pass along the sides; belly and vent, white; legs and feet, flesh coloured; third wing-feather from the body, nearly as long as the tip of the wing when shut.

I can perceive little or no difference between the colours and markings of the male and female.

163. *FRINGILLA PALUSTRIS*, WILSON. — SWAMP SPARROW.

WILSON, PLATE XXII. FIG. I. ADULT MALE.

THE history of this obscure and humble species is short and uninteresting. Unknown or overlooked by the naturalists of Europe, it is now for the first time

introduced to the notice of the world. It is one of our summer visitants, arriving in Pennsylvania early in April, frequenting low grounds, and river courses; rearing two, and sometimes three, brood in a season; and returning to the south as the cold weather commences. The immense cypress swamps and extensive grassy flats of the Southern States, that border their numerous rivers, and the rich rice plantations, abounding with their favourite seeds and sustenance, appear to be the general winter resort, and grand annual rendezvous, of this and all the other species of sparrow that remain with us during summer. From the river Trent in North Carolina, to that of Savannah, and still farther south, I found this species very numerous; not flying in flocks, but skulking among the canes, reeds, and grass, seeming shy and timorous, and more attached to the water than any other of their tribe. In the month of April numbers pass through Pennsylvania to the northward, which I conjecture from the circumstance of finding them at that season in particular parts of the woods, where, during the rest of the year, they are not to be seen. The few that remain frequent the swamps, and reedy borders of our creeks and rivers. They form their nest in the ground, sometimes in a tussock of rank grass, surrounded by water, and lay four eggs of a dirty white, spotted with rufous. So late as the 15th of August, I have seen them feeding their young that were scarcely able to fly. Their principal food is grass seeds, wild oats, and insects. They have no song; are distinguished by a single chip or *cheep*, uttered in a rather hoarser tone than that of the song sparrow; flirt the tail as they fly; seldom or never take to the trees, but skulk from one low bush or swampy thicket to another.

The swamp sparrow is five inches and a half long, and seven inches and a half in extent; the back of the neck and front are black; crown, bright bay, bordered with black; a spot of yellowish white between the eye and nostril; sides of the neck and whole breast, dark ash; chin, white; a streak of black proceeds from

the lower mandible, and another from the posterior angle of the eye; back, black, slightly skirted with bay; greater coverts also black, edged with bay; wings and tail, plain brown; belly and vent, brownish white; bill, dusky above, bluish below; eyes, hazel; legs, brown; claws, strong and sharp, for climbing the reeds. The female wants the bay on the crown, or has it indistinctly; over the eye is a line of dull white.

164. *FRINGILLA ALBICOLLIS*, WILSON.

WHITE-THROATED SPARROW.

WILSON, PLATE XXIV. FIG. II.

THIS is the largest as well as handsomest of all our sparrows. It winters with the preceding species and several others in most of the States south of New England. From Connecticut to Savannah I found these birds numerous, particularly in the neighbourhood of the Roanoke river, and among the rice plantations. In summer they retire to the higher inland parts of the country, and also farther north, to breed. According to Pennant, they are also found at that season in Newfoundland. During their residence here in winter, they collect together in flocks, always preferring the borders of swampy thickets, creeks, and mill-ponds, skirted with alder bushes and long rank weeds, the seeds of which form their principal food. Early in spring, a little before they leave us, they have a few remarkably sweet and clear notes, generally in the morning a little after sunrise. About the 20th of April they disappear, and we see no more of them till the beginning or second week of October, when they again return; part to pass the winter with us; and part on their route farther south.

The length of the white-throated sparrow is six inches and a half, breadth, nine inches; the upper part of the back and the lesser wing-coverts are beautifully variegated with black, bay, ash, and light brown; a stripe of white passes from the base of the upper mandible to the hind head; this is bordered on each side

with a stripe of black; below this again is another of white passing over each eye, and deepening into orange yellow between that and the nostril; this is again bordered by a stripe of black proceeding from the hind part of the eye; breast, ash; chin, belly, and vent, white; tail, somewhat wedged; legs, flesh coloured; bill, a bluish horn colour; eye, hazel. In the female the white stripe on the crown is a light drab; the breast not so dark; the chin less pure; and the line of yellow before the eye scarce half as long as in the male. All the parts that are white in the male are in the female of a light drab colour.

165. *FRINGILLA SAVANNA*, WILSON. — SAVANNAH SPARROW.

WILSON, PLATE XXII. FIG. III. FEMALE.

THIS new species is an inhabitant of the low countries on the Atlantic coast, from Savannah, where I first discovered it, to the state of New York, and is generally resident in these places, though rarely found inland, or far from the sea-shore. I have since found these birds numerous on the sea-shore, in the State of New Jersey, particularly near Great Egg Harbour. A pair of them I presented to Mr Peale of this city, in whose noble collection they now occupy a place.

The female of the Savannah sparrow is five inches and a half long, and eight and a half in extent; the plumage of the back is mottled with black, bright bay, and whitish; chin, white; breast, marked with pointed spots of black, edged with bay, running in chains from each base of the lower mandible; sides, touched with long streaks of the same; temples, marked with a spot of delicate yellow; ear feathers, slightly tinged with the same; belly, white, and a little streaked; inside of the shoulders, and lining of the wing, pale yellowish; first and second rows of wing-coverts, tipped with whitish; secondaries next the body, pointed and very black, edged also with bay; tail, slightly forked, and without any white feathers; legs, pale flesh colour; hind claw, pretty long.

The very slight distinctions of colour which nature has drawn between many distinct species of this family of finches, render these minute and tedious descriptions absolutely necessary, that the particular species may be precisely discriminated.

166. *FRINGILLA SAVANNA*, WILSON. — SAVANNAH FINCH.

WILSON, PLATE XXXIV. FIG. IV. MALE.

THE female of this delicately marked sparrow has been already taken notice of. The present description is from a very beautiful male.

The length, five and a half inches; extent, eight and a half; bill, pale brown; eyebrows, Naples yellow; breast and whole lower parts, pure white, the former marked with small pointed spots of brown; upper parts, a pale whitish drab, mottled with reddish brown; wing-coverts, edged and tipped with white; tertials, black, edged with white and bay; legs, pale clay; ear feathers, tinged with Naples yellow. The female and young males are less, and much darker.

This is, probably, the most timid of all our sparrows. In winter it frequents the sea-shores; but, as spring approaches, migrates to the interior, as I have lately discovered, building its nest in the grass nearly in the same form, though with fewer materials, as that of the bay-winged bunting. On the 23d of May, I found one of these at the root of a clump of rushes in a grass field, with three young, nearly ready to fly. The female counterfeited lameness, spreading its wings and tail, and using many affectionate stratagems to allure me from the place. The eggs I have never seen.

167. *FRINGILLA PUSILLA*. — FIELD SPARROW.

WILSON, PLATE XVI. FIG. II.

THIS is the smallest of all our sparrows, and, in Pennsylvania, is generally migratory. It arrives early in April, frequents dry fields covered with long grass, builds a small nest on the ground, generally at the foot

of a brier; lines it with horse hair; lays six eggs, so thickly sprinkled with ferruginous, as to appear altogether of that tint; and raises two, and often three, brood in a season. It is more frequently found in the middle of fields and orchards than any of the other species, which usually lurk along hedgerows. It has no song, but a kind of chirruping, not much different from the chirpings of a cricket. Towards fall, they assemble in loose flocks, in orchards and corn fields, in search of the seeds of various rank weeds; and are then very numerous. As the weather becomes severe, with deep snow, they disappear. In the lower parts of North and South Carolina, I found this species in multitudes in the months of January and February. When disturbed, they take to the bushes, clustering so close together, that a dozen may easily be shot at a time. I continued to see them equally numerous through the whole lower parts of Georgia; from whence, according to Mr Abbot, they all disappear early in the spring.

None of our birds have been more imperfectly described than that family of the finch tribe usually called sparrows. They have been considered as too insignificant for particular notice, yet they possess distinct characters, and some of them peculiarities, well worthy of notice. They are innocent in their habits, subsisting chiefly on the small seeds of wild plants, and seldom injuring the property of the farmer. In the dreary season of winter, some of them enliven the prospect by hopping familiarly about our doors, humble pensioners on the sweepings of the threshold.

The present species has never before, to my knowledge, been described. It is five inches and a quarter long, and eight inches broad; bill and legs, a reddish cinnamon colour; upper part of the head, deep chestnut, divided by a slight streak of drab, widening as it goes back; cheeks, line over the eye, breast, and sides under the wings, a brownish clay colour, lightest on the chin, and darkest on the ear feathers; a small streak of brown at the lower angle of the bill; back, streaked

with black, drab, and bright bay, the latter being generally centred with the former; rump, dark drab, or cinereous; wings, dusky black, the primaries edged with whitish, the secondaries bordered with bright bay; greater wing-coverts, black, edged and broadly tipped with brownish white; tail, dusky black, edged with clay colour: male and female nearly alike in plumage; the chestnut on the crown of the male rather brighter.

168. *FRINGILLA ARBOREA*, WILSON.

FRINGILLA CANADENSIS, LATHAM. — TREE SPARROW.

WILSON, PLATE XVI. FIG. III. — EDINBURGH COLLEGE MUSEUM.

THIS sparrow is a native of the north, who takes up his winter quarters in Pennsylvania, and most of the northern States, as well as several of the southern ones. He arrives here about the beginning of November, and leaves us again early in April; associates, in flocks, with the snow birds; frequents sheltered hollows; thickets, and hedgerows, near springs of water; and has a low warbling note, scarcely audible at the distance of twenty or thirty yards. If disturbed, takes to trees, like the white-throated sparrow; but, contrary to the habit of most of the others, who are inclined rather to dive into thickets. Mr Edwards has erroneously represented this as the female of the mountain sparrow; but that judicious and excellent naturalist, Mr Pennant, has given a more correct account of it, and informs us, that it inhabits the country bordering on Hudson's bay during summer; comes to Severn settlement in May; advances farther north to breed; and returns in autumn on its way southward. It also visits Newfoundland.*

By some of our own naturalists, this species has been confounded with the chipping sparrow, which it very much resembles, but is larger and handsomer, and is never found with us in summer. The former departs for the south about the same time that the latter

* *Arctic Zoology*, vol. ii, p. 373.

arrives from the north; and, from this circumstance, and their general resemblance, has arisen the mistake.

The tree sparrow is six inches and a half long, and nine and a half in extent; the whole upper part of the head is of a bright reddish chestnut, sometimes slightly skirted with gray; from the nostrils, over the eye, passes a white strip, fading into pale ash, as it extends back; sides of the neck, chin, and breast, very pale ash; the centre of the breast marked with an obscure spot of dark brown; from the lower angle of the bill, proceeds a slight streak of chestnut; sides, under the wings, pale brown; back, handsomely streaked with pale drab, bright bay, and black; lower part of the back and rump, brownish drab; lesser wing-coverts, black, edged with pale ash; wings, black, broadly edged with bright bay; the first and second row of coverts, tipped with pure white; tail, black, forked, and exteriorly edged with dull white; belly and vent, brownish white; bill, black above, yellow below; legs, a brownish clay colour; feet, black. The female is about half an inch shorter; the chestnut or bright bay on the wings, back, and crown, is less brilliant; and the white on the coverts narrower, and not so pure. These are all the differences I can perceive.

169. *FRINGILLA MELODIA*, WILSON. — SONG SPARROW.

WILSON, PLATE XVI. FIG. IV.

So nearly do many species of our sparrows approximate to each other in plumage, and so imperfectly have they been taken notice of, that it is absolutely impossible to say, with certainty, whether the present species has ever been described or not. And yet, of all our sparrows, this is the most numerous, the most generally diffused over the United States, and by far the earliest, sweetest, and most lasting songster. It may be said to be partially migratory, many passing to the south in the month of November; and many of them still remaining with us, in low, close, sheltered meadows and swamps, during the whole of winter. It is the first

singing bird in spring, taking precedence even of the pewee and bluebird. Its song continues occasionally during the whole summer and fall, and is sometimes heard even in the depth of winter. The notes, or chant, are short, but very sweet, resembling the beginning of the canary's song, and frequently repeated, generally from the branches of a bush or small tree, where it sits chanting for an hour together. It is fond of frequenting the borders of rivers, meadows, swamps, and such like watery places; and, if wounded, and unable to fly, will readily take to the water, and swim with considerable rapidity. In the great cypress swamps of the southern States, in the depth of winter, I observed multitudes of these birds mixed with several other species; for these places appear to be the grand winter rendezvous of almost all our sparrows. I have found this bird in every district of the United States, from Canada to the southern boundaries of Georgia; but Mr Abbot informs me, that he knows of only one or two species that remain in that part of Georgia during the summer.

The song sparrow builds in the ground, under a tuft of grass; the nest is formed of fine dry grass, and lined with horse hair; the eggs are four or five, thickly marked with spots of reddish brown, on a white, sometimes bluish white, ground; if not interrupted, he raises three brood in the season. I have found his nest with young as early as the 26th of April, and as late as the 12th of August. What is singular, the same bird often fixes his nest in a cedar tree, five or six feet from the ground. Supposing this to have been a variety, or different species, I have examined the bird, nest, and eggs, with particular care, several times, but found no difference. I have observed the same accidental habit in the red-winged blackbird, which sometimes builds among the grass, as well as on alder bushes.

This species is six inches and a half long, and eight and a half in extent; upper part of the head, dark chestnut, divided, laterally, by a line of pale dirty white; spot at each nostril, yellow ochre; line over the eye,

inclining to ash; chin, white; streak from the lower mandible, slit of the mouth, and posterior angle of the eye, dark chestnut; breast, and sides under the wings, thickly marked with long pointed spots of dark chestnut, centred with black, and running in chains; belly, white; vent, yellow ochre, streaked with brown; back, streaked with black, bay, and pale ochre; tail, brown, rounded at the end, the two middle feathers streaked down their centres with black; legs, flesh coloured; wing-coverts, black, broadly edged with bay, and tipped with yellowish white; wings, dark brown. The female is scarcely distinguishable by its plumage from the male. The bill in both, horn coloured.

170. *FRINGILLA SOCIALIS*, WILSON. — CHIPPING SPARROW.

WILSON, PLATE XVI. FIG. V.

THIS species, though destitute of the musical talents of the former, is, perhaps, more generally known, because more familiar, and even domestic. He inhabits, during summer, the city, in common with man, building in the branches of the trees with which our streets and gardens are ornamented; and gleaning up crumbs from our yards, and even our doors, to feed his more advanced young with. I have known one of these birds attend regularly every day, during a whole summer, while the family were at dinner, under a piazza, fronting the garden, and pick up the crumbs that were thrown to him. This sociable habit, which continues chiefly during the summer, is a singular characteristic. Towards the end of summer he takes to the fields and hedges, until the weather becomes severe, with snow, when he departs for the south.

The chipping bird builds his nest most commonly in a cedar bush, and lines it thickly with cow hair. The female lays four or five eggs, of a light blue colour, with a few dots of purplish black near the great end.

This species may easily be distinguished from the four preceding ones, by his black bill and frontlet, and by his familiarity in summer; yet in the month of

August and September, when they moult their feathers, the black on the front, and partially on the bill, disappears. The young are also without the black during the first season.

The chipping sparrow is five inches and a quarter long, and eight inches in extent; frontlet, black; chin, and line over the eye, whitish; crown, chestnut; breast and sides of the neck, pale ash; bill, in winter, black, in summer, the lower mandible flesh coloured; rump, dark ash; belly and vent, white; back, variegated with black and bright bay; wings, black, broadly edged with bright chestnut; tail, dusky, forked, and slightly edged with pale ochre; legs and feet, a pale flesh colour. The female differs in having less black on the frontlet, and the bay duller. Both lose the black front in moulting.

171. *FRINGILLA NIVALIS*, WILSON. — SNOW BIRD.

WILSON, PLATE XVI. FIG. VI. — EDINBURGH COLLEGE MUSEUM.

THIS well known species, small and insignificant as it may appear, is, by far, the most numerous, as well as the most extensively disseminated, of all the feathered tribes that visit us from the frozen regions of the north. Their migrations extending from the arctic circle, and, probably, beyond it, to the shores of the Gulf of Mexico, spreading over the whole breadth of the United States, from the Atlantic Ocean to Louisiana: how much farther westward, I am unable to say. About the 20th of October they make their first appearance in those parts of Pennsylvania east of the Alleghany Mountains. At first they are most generally seen on the borders of woods among the falling and decayed leaves, in loose flocks of thirty or forty together, always taking to the trees when disturbed. As the weather sets in colder, they approach nearer the farm-house and villages; and on the appearance of, what is usually called, falling weather, assemble in larger flocks, and seem doubly diligent in searching for food. This increased activity is generally a sure prognostic of a storm. When deep

snow covers the ground, they become almost half domesticated. They collect about the barn, stables, and other outhouses, spread over the yard, and even round the steps of the door; not only in the country and villages, but in the heart of our large cities; crowding around the threshold early in the morning, gleaning up the crumbs; appearing very lively and familiar. They have also recourse, at this severe season, when the face of the earth is shut up from them, to the seeds of many kinds of weeds that still rise above the snow, in corners of fields, and low, sheltered situations, along the borders of creeks and fences, where they associate with several species of sparrows, particularly the four last mentioned. They are, at this time, easily caught with almost any kind of trap; are generally fat, and, it is said, are excellent eating.

I cannot but consider this bird as the most numerous of its tribe of any within the United States. From the northern parts of the district of Maine, to the Ogechee river in Georgia, a distance, by the circuitous route in which I travelled, of more than 1800 miles, I never passed a day, and scarcely a mile, without seeing numbers of these birds, and frequently large flocks of several thousands. Other travellers with whom I conversed, who had come from Lexington, in Kentucky, through Virginia, also declared that they found these birds numerous along the whole road. It should be observed, that the roadsides are their favourite haunts, where many rank weeds that grow along the fences furnish them with food, and the road with gravel. In the vicinity of places where they were most numerous, I observed the small American sparrow hawk, and several others of his tribe, watching their opportunity, or hovering cautiously around, making an occasional sweep among them, and retiring to the bare branches of an old cypress, to feed on their victim. In the month of April, when the weather begins to be warm, they are observed to retreat to the woods, and to prefer the shaded sides of hills and thickets; at which time the males warble out a few very low sweet notes, and are

almost perpetually pursuing and fighting with each other. About the 20th of April they take their leave of our humble regions, and retire to the north, and to the high ranges of the Alleghany, to build their nests, and rear their young. In some of those ranges, in the interior of Virginia, and northward about the waters of the west branch of the Susquehanna, they breed in great numbers. The nest is fixed in the ground, or among the grass, sometimes several being within a small distance of each other. According to the observations of the gentlemen residing at Hudson bay factory, they arrive there about the beginning of June, stay a week or two, and proceed farther north to breed. They return to that settlement in the autumn, on their way to the south.

In some parts of New England, I found the opinion pretty general, that the snow bird, in summer, is transformed into the small chipping sparrow, which we find so common in that season. I had convinced a gentleman of New York of his mistake in this matter, by taking him to the house of a Mr Gautier, there, who amuses himself by keeping a great number of native as well as foreign birds. This was in the month of July, and the snow bird appeared there in the same coloured plumage he usually has. Several individuals of the chipping sparrow were also in the same apartment. The evidence was, therefore, irresistible; but, as I had not the same proofs to offer to the eye in New England, I had not the same success.

There must be something in the temperature of the blood or constitution of this bird, which unfits it for residing, during summer, in the lower parts of the United States; as the country here abounds with a great variety of food, of which, during its stay here, it appears to be remarkably fond. Or, perhaps, its habit of associating in such numbers to breed, and building its nest with so little precaution, may, to ensure its safety, require a solitary region, far from the intruding footsteps of man.

The snow bird is six inches long, and nine in extent;

the head, neck, and upper parts of the breast, body, and wings, are of a deep slate colour; the plumage sometimes skirted with brown, which is the colour of the young birds; the lower parts of the breast, the whole belly and vent, are pure white; the three secondary quill feathers next the body, are edged with brown, the primaries with white; the tail is dusky slate, a little forked, the two exterior feathers wholly white, which are flirled out as it flies, and appear then very prominent; the bill and legs are of a reddish flesh colour; the eye, bluish black. The female differs from the male, in being considerably more brown. In the depth of winter, the slate colour of the male becomes more deep, and much purer, the brown disappearing nearly altogether.

172. *FRINGILLA PASSERINA*, WILSON.

YELLOW-WINGED SPARROW.

WILSON, PLATE XXIV. FIG. V.

THIS small species is now for the first time introduced to the notice of the public. I can, however, say little towards illustrating its history, which, like that of many individuals of the human race, would be but a dull detail of humble obscurity. It inhabits the lower parts of New York and Pennsylvania; is very numerous on Staten Island, where I first observed it; and occurs also along the sea coast of New Jersey. But, though it breeds in each of these places, it does not remain in any of them during the winter. It has a short, weak, interrupted chirrup, which it occasionally utters from the fences and tops of low bushes. Its nest is fixed on the ground among the grass; is formed of loose dry grass, and lined with hair and fibrous roots of plants. The eggs are five, of a grayish white sprinkled with brown. On the 1st of August I found the female sitting.

I cannot say what extent of range this species has, having never met with it in the southern States; though

I have no doubt that it winters there, with many others of its tribe. It is the scarcest of all our summer sparrows. Its food consists principally of grass seeds, and the larvæ of insects, which it is almost continually in search of among the loose soil and on the surface, consequently it is more useful to the farmer than otherwise.

The length of this species is five inches, extent eight inches; upper part of the head, blackish, divided by a slight line of white; hind head and neck above, marked with short lateral touches of black and white; a line of yellow extends from above the eye to the nostril; cheeks, plain brownish white; back, streaked with black, brown, and pale ash; shoulders of the wings, above and below, and lesser coverts, olive yellow; greater wing-coverts, black, edged with pale ash; primaries, light drab; tail, the same, the feathers rather pointed at the ends, the outer ones white; breast, plain yellowish white, or pale ochre, which distinguishes it from the Savannah sparrow; belly and vent, white; three or four slight touches of dusky at the sides of the breast; legs, flesh colour; bill, dusky above, pale bluish white below. The male and female are nearly alike in colour.

173. *FRINGILLA CAUDACUTA*, WILSON.

SHARP-TAILED SPARROW.

WILSON, PLATE XXXIV. FIG. III.

A BIRD of this denomination is described by Turton, *Syst.* p. 562; but which by no means agrees with the present. This, however, may be the fault of the describer, as it is said to be a bird of Georgia; unwilling, therefore, to multiply names unnecessarily, I have adopted this appellation.

This new (as I apprehend it) and beautiful species is an associate of the sea-side finch, inhabits the same places, lives on the same food, and resembles it so much in manners, that, but for their dissimilarity in some

essential particulars, I would be disposed to consider them as the same in a different state of plumage. They are much less numerous than the preceding, and do not run with equal celerity.

The sharp-tailed finch is five inches and a quarter long, and seven inches and a quarter in extent; bill, dusky; auriculars, ash; from the bill over the eye, and also below it, run two broad stripes of brownish orange; chin, whitish; breast, pale buff, marked with small pointed spots of black; belly, white; vent, reddish buff; from the base of the upper mandible a broad stripe of pale ash runs along the crown and hind head, bordered on each side by one of blackish brown; back, a yellowish brown olive, some of the feathers curiously edged with semicircles of white; sides under the wings, buff, spotted with black; wing-coverts and tertials, black, broadly edged with light reddish buff; tail, cuneiform, short; all the feathers sharp pointed; belly, white; vent, dark buff; legs, a yellow clay colour; irides, hazel.

I examined many of these birds, and found but little difference in the colour and markings of their plumage.

174. *FRINGILLA MARITIMA*, WILSON. — SEA-SIDE FINCH.

WILSON, PLATE XXXIV. FIG. II.

OF this bird I can find no description. It inhabits the low, rush-covered sea islands along our Atlantic coast, where I first found it; keeping almost continually within the boundaries of tide water, except when long and violent east or northeasterly storms, with high tides, compel it to seek the shore. On these occasions it courses along the margin, and among the holes and interstices of the weeds and sea-wrack, with a rapidity equalled only by the nimblest of our sandpipers, and very much in their manner. At these times also it roosts on the ground, and runs about after dusk.

This species derives its whole subsistence from the sea. I examined a great number of individuals by dissection, and found their stomachs universally filled with

fragments of shrimps, minute shell fish, and broken limbs of small sea crabs. Its flesh, also, as was to be expected, tasted of fish, or was what is usually termed sedgy. Amidst the recesses of these wet sea marshes, it seeks the rankest growth of grass and sea weed, and climbs along the stalks of the rushes with as much dexterity as it runs along the ground, which is rather a singular circumstance, most of our climbers being rather awkward at running.

The sea-side finch is six inches and a quarter long, and eight and a quarter in extent; chin, pure white, bordered on each side by a stripe of dark ash, proceeding from each base of the lower mandible; above that is another slight streak of white; from the nostril over the eye extends another streak, which immediately over the lores is rich yellow, bordered above with white, and ending in yellow olive; crown, brownish olive, divided laterally by a stripe of slate blue, or fine light ash; breast, ash, streaked with buff; belly, white; vent, buff coloured, and streaked with black; upper parts of the back, wings, and tail, a yellowish brown olive, intermixed with very pale blue; greater and lesser coverts, tipped with dull white; edge of the bend of the wing, rich yellow; primaries edged with the same immediately below their coverts; tail, cuneiform, olive brown, centred with black; bill, dusky above, pale blue below, longer than is usual with finches; legs and feet, a pale bluish white; irides, hazel. Male and female nearly alike in colour.

SUBGENUS II. — *CARDUELIS*, BRISSON.

175. *FRINGILLA TRISTIS*, LINNÆUS AND WILSON.

YELLOW BIRD, OR GOLDFINCH.

WILSON, PLATE I. FIG. II. — ADULT MALE, IN SPRING DRESS.

EDINBURGH COLLEGE MUSEUM.

THIS bird is four inches and a half in length, and eight inches in extent, of a rich lemon yellow, fading into white towards the rump and vent. The wings

and tail are black, the former tipped and edged with white, the interior webs of the latter are also white; the fore part of the head is black, the bill and legs of a reddish cinnamon colour. This is the summer dress of the male; but in the month of September the yellow gradually changes to a brown olive, and the male and female are then nearly alike. They build a very neat and delicately formed little nest, which they fasten to the twigs of an apple tree, or to the strong branching stalks of hemp, covering it on the outside with pieces of lichen, which they find on the trees and fences; these they glue together with their saliva, and afterwards line the inside with the softest downy substances they can procure. The female lays five white eggs, faintly marked at the greater end; and they generally raise two broods in a season. The males do not arrive at their perfect plumage until the succeeding spring; wanting, during that time, the black on the head, and the white on the wings being of a cream colour. In the month of April they begin to change their winter dress, and, before the middle of May, appear in brilliant yellow: the whole plumage towards its roots is of a dusky bluish black.

The song of the yellow bird resembles that of the goldfinch of Britain; but is in general so weak as to appear to proceed from a considerable distance, when perhaps the bird is perched on the tree over your head. I have, however, heard some sing in cages with great energy and animation. On their first arrival in Pennsylvania, in February, and until early in April, they associate in flocks, frequently assembling in great numbers on the same tree to bask and dress themselves in the morning sun, singing in concert for half an hour together; the confused mingling of their notes forming a kind of harmony not at all unpleasant.

About the last of November, and sometimes sooner, they generally leave Pennsylvania, and proceed to the south; some, however, are seen even in the midst of the severest winters. Their flight is not direct, but in alternate risings and sinkings; twittering as they fly,

at each successive impulse of the wings. During the latter part of summer they are almost constant visitants in our gardens, in search of seeds, which they dislodge from the husk with great address, while hanging, frequently head downwards, in the manner of the titmouse. From these circumstances, as well as from their colour, they are very generally known, and pass by various names expressive of their food, colour, &c. such as thistle bird, lettuce bird, salad bird, yellow bird, &c. The gardeners, who supply the city of Philadelphia with vegetables, often take them in trap-cages, and expose them for sale in market. They are easily familiarized to confinement, and feed with seeming indifference a few hours after being taken.

The great resemblance which the yellow bird bears to the canary has made many persons attempt to pair individuals of the two species together. An ingenious French gentleman, who resides in Pottsgrove, Pennsylvania, assured me, that he had tried the male yellow bird with the female canary, and the female yellow bird with the male canary, but without effect, though he kept them for several years together, and supplied them with proper materials for building. Mr Hassey of New York, however, who keeps a great number of native as well as foreign birds, informed me, that a yellow bird paired with a canary in his possession, and laid eggs, but did not hatch, which he attributed to the lateness of the season.

These birds, as has been before observed, (vol. i. p. 261,) were seen by Mr M'Kenzie, in his route across the continent of North America, as far north as lat. 54°; they are numerous in all the Atlantic States north of the Carolinas; abound in Mexico, and are also found in great numbers in the savannahs of Guiana.

The seeds of the lettuce, thistle, hemp, &c. are their favourite food, and it is pleasant to observe a few of them at work in a calm day, detaching the thistle down, in search of the seeds, making it fly in clouds around them.

The American goldfinch has been figured and des-

cribed by Mr Catesby,* who says that the back part of the head is a dirty green, &c. This description must have been taken while the bird was changing its plumage. At the approach of fall, not only the rich yellow fades into a brown olive; but the spot of black on the crown and forehead becomes also of the same olive tint. Mr Edwards has also erred in saying that the young male bird has the spot of black on the forehead; this it does not receive until the succeeding spring. The figure in Edwards is considerably too large; and that by Catesby has the wings and tail much longer than in nature, and the body too slender,—very different from the true form of the living bird. Mr Pennant also tells us, that the legs of this species are black; they are, however, of a bright cinnamon colour; but the worthy naturalist, no doubt, described them as he found them in the dried and stuffed skin, shrivelled up and blackened with decay; and thus too much of our natural history has been delineated.

176. *FRINGILIA PINUS*, WILSON.—PINE FINCH.

WILSON, PLATE XVII. FIG. I.—IN WINTER PLUMAGE.

THIS little northern stranger visits us in the month of November, and seeks the seeds of the black alder, on the borders of swamps, creeks, and rivulets. As the weather becomes more severe, and the seeds of the *pinus Canadensis* are fully ripe, the sebirds collect in larger flocks, and take up their residence, almost exclusively, among these trees. In the gardens of Bush Hill, in the neighbourhood of Philadelphia, a flock of two or three hundred of these birds have regularly wintered many years; where a noble avenue of pine trees, and walks covered with fine white gravel, furnish them with abundance through the winter. Early in March they disappear, either to the north, or to the pine woods that cover many lesser ranges of the Alleghany. While here, they are often so tame as to allow

* *Nat. Hist. Car.* vol. i, p. 43.

you to walk within a few yards of the spot where a whole flock of them are sitting. They flutter among the branches, frequently hanging by the cones, and uttering a note almost exactly like that of the goldfinch, (*F. tristis*.) I have not a doubt but this bird appears in a richer dress in summer in those places where he breeds, as he has so very great a resemblance to the bird above mentioned, with whose changes we are well acquainted.

The length of this species is four inches; breadth, eight inches; upper part of the head, the neck, and back, a dark flaxen colour, streaked with black; wings, black, marked with two rows of dull white, or cream colour; whole wing quills, under the coverts, rich yellow, appearing even when the wings are shut; rump and tail-coverts, yellowish, streaked with dark brown; tail feathers, rich yellow from the roots half way to the tips, except the two middle ones, which are blackish brown, slightly edged with yellow; sides under the wings, of a cream colour, with long streaks of black; breast, a light flaxen colour, with small streaks or pointed spots of black; legs, purplish brown; bill, a dull horn colour; eyes, hazel. The female was scarcely distinguishable by its plumage from the male. The New York siskin of Pennant,* appears to be only the yellow bird (*fringilla tristis*) in his winter dress.

This bird has a still greater resemblance to the siskin of Europe, (*F. spinus*,) and may, perhaps, be the species described by Turton,† as the black Mexican siskin, which he says is varied above with black and yellowish, and is white beneath, and which is also said to sing finely. This change from flaxen to yellow is observable in the goldfinch; and no other two birds of our country resemble each other more than these do in their winter dresses.

* *Arctic Zoology*, p. 372, No. 243.

† TURTON, vol. i, p. 560.

177. *FRINGILLA LINARIA*, LINN. AND WILS. — LESSER RED-POLL.

WILSON, PLATE XXX. FIG. IV. MALE. — EDINBURGH COLLEGE MUSEUM.

THIS bird corresponds so exactly in size, figure, and colour of plumage, with that of Europe of the same name, as to place their identity beyond a doubt. They inhabit, during summer, the most northern parts of Canada, and still more remote northern countries, from whence they migrate at the commencement of winter. They appear in the Genesee country with the first deep snow, and on that account are usually called by the title of snow birds. As the female is destitute of the crimson on the breast and forehead, and the young birds do not receive that ornament till the succeeding spring, such a small proportion of the individuals that form these flocks are marked with red, as to induce a general belief among the inhabitants of those parts that they are two different kinds associated together. Flocks of these birds have been occasionally seen in severe winters in the neighbourhood of Philadelphia. They seem particularly fond of the seeds of the common alder, and hang, head downwards, while feeding, in the manner of the yellow bird. They seem extremely unsuspicious at such times, and will allow a very near approach without betraying any symptoms of alarm.

The specimen from which this description was taken, was shot, with several others of both sexes, in Seneca county, between the Seneca and Cayuga lakes. Some individuals were occasionally heard to chant a few interrupted notes, but no satisfactory account can be given of their powers of song.

This species extends throughout the whole northern parts of Europe, is likewise found in the remote wilds of Russia, was seen by Steller in Kamtschatka, and probably inhabits corresponding climates round the whole habitable parts of the northern hemisphere. In the Highlands of Scotland they are common, building often on the tops of the heath, sometimes in a low furze bush, like the common linnet, and sometimes on

the ground. The nest is formed of light stalks of dried grass, intermixed with tufts of wool, and warmly lined with feathers. The eggs are usually four, white, sprinkled with specks of reddish.

[* Contrary to the usual practice of Mr Wilson, he omitted to furnish a *particular* description of this species. But this supplementary notice would not have been considered necessary, if our author had not fallen into a mistake respecting the markings of the female and the young male; the former of which he describes as "destitute of the crimson on the forehead," and the latter "not receiving that ornament till the succeeding spring." When Mr Wilson procured his specimens, it was in the autumn, previously to their receiving their perfect winter dress; and he was never afterwards aware of his error, owing to the circumstance of these birds seldom appearing in the neighbourhood of Philadelphia. Considerable flocks of them, however, have visited us this winter (1813-14;) and we have been enabled to procure several fine specimens of both sexes, from the most perfect of which we have taken the following description. We will add, that having had the good fortune to observe a flock, consisting of nearly an hundred, within a few feet of them, as they were busily engaged in picking the seeds of the wild orache,† we can, with confidence, assert, that they *all* had the red patch on the crown, but there were very few which had the red rump and breast; the young males, it is probable, are not thus marked until the spring, and the females are destitute of that ornament altogether.

The lesser red-poll is five inches and a quarter in length, and eight inches and a half in breadth; the bill is pale yellow, ridged above and below with dark horn colour, the upper mandible projecting somewhat over

* From this to the end of the article, enclosed within brackets, is an addition to Wilson's article by Mr Ord, editor of the 8th and 9th volumes of the American edition of the *Ornithology*.

† *Atriplex hastata*, Linn.

the lower at the tip; irides, dark hazel; the nostrils are covered with recumbent, hair-like feathers, of drab colour; a line of brown extends from the eyes, and encircles the base of the bill, forming, in some specimens, a patch below the chin; the crown is ornamented with a pretty large spot of deep shining crimson; the throat, breast, and rump stained with the same, but of a more delicate red; the belly is of a very pale ash, or dull white; the sides are streaked with dusky, the whole upper parts are brown or dusky, the plumage edged with yellowish white and pale ash, the latter most predominant near the rump; wings and tail dusky, the latter is forked, and consists of twelve feathers edged with white; the primaries are very slightly tipt and edged with white; the secondaries more so; the greater and lesser coverts are also tipt with white, forming the bars across the wings; thighs, cinereous; legs and feet, black: hind claw, considerably hooked, and longer than the rest. The female is less bright in her plumage above; and her under parts incline more to an ash colour; the spot on her crown is of a golden crimson, or reddish saffron colour. One male specimen was considerably larger than the rest; it measured five inches and three quarters in length, and nine inches and a quarter in extent; the breast and rump were tawny; its claws were uncommonly long, the hind one measured nearly three eighths of an inch; and the spot on the crown was of a darker hue than that of the rest.

The call of this bird exactly resembles that of the *fringilla tristis*, or common yellow bird of Pennsylvania. The red-polls linger in the neighbourhood of Philadelphia until about the middle of April; but whither they retire for the business of incubation, we cannot determine. In common with almost all our finches, the red-polls become very fat, and are then accounted delicious eating. During the last winter, many hundreds of them were exposed to sale in the Philadelphia market, and were readily purchased by those epicures, whose love of variety permits no delicacy to escape them.]

SUBGENUS III.—*FRINGILLA*, VIEILL.178. *FRINGILLA ILIACA*, MURM.*FRINGILLA RUFA* (*FERRUGINEA*), WILSON.

FOX-COLOURED SPARROW.

WILSON, PLATE XXII. FIG. IV.—EDINBURGH COLLEGE MUSEUM.

THIS plump and pretty species arrives in Pennsylvania from the north about the 20th of October; frequents low, sheltered thickets; associates in little flocks of ten or twelve; and is almost continually scraping the ground, and rustling among the fallen leaves. I found this bird numerous in November among the rich cultivated flats that border the river Connecticut; and was informed that it leaves those places in spring. I also found it in the northern parts of the State of Vermont. Along the borders of the great reed and cypress swamps of Virginia, and North and South Carolina, as well as around the rice plantations, I observed this bird very frequently. They also inhabit Newfoundland.* They are rather of a solitary nature, seldom feeding in the open fields, but generally under thickets, or among tall rank weeds on the edges of fields. They sometimes associate with the snow bird, but more generally keep by themselves. Their manners very much resemble those of the red-eyed, or towhee bunting; they are silent, tame, and unsuspicious. They have generally no other note while here than a *shep, shep*; yet I suspect they have some song in the places where they breed; for I once heard a single one, a little before the time they leave us, warble out a few very sweet low notes.

The fox-coloured sparrow is six inches long, and nine and a quarter broad; the upper part of the head and neck is cinereous, edged with rust colour; back, handsomely mottled with reddish brown, and cinereous;

* PENNANT.

wings and tail, bright ferruginous ; the primaries, dusky within and at the tips, the first and second row of coverts, tipped with white ; breast and belly, white ; the former, as well as the ear feathers, marked with large blotches of bright bay, or reddish brown, and the beginning of the belly with little arrow-shaped spots of black ; the tail-coverts and tail are a bright fox colour ; the legs and feet, a dirty brownish white, or clay colour, and very strong ; the bill is strong, dusky above and yellow below ; iris of the eye, hazel. The chief difference in the female is, that the wings are not of so bright a bay, inclining more to a drab ; yet this is scarcely observable, unless by a comparison of the two together. They are generally very fat, live on grass seeds, eggs of insects, and gravel.

179. *FRINGILLA ERYTHROPHALMA*, LINNÆUS.

EMBERIZA ERYTHROPHALMA, WILSON.—TOWHE BUNTING.

WILSON, PLATE X. FIG. V.

THIS is a very common, but humble and inoffensive species, frequenting close sheltered thickets, where it spends most of its time in scratching up the leaves for worms, and for the larvæ and eggs of insects. It is far from being shy, frequently suffering a person to walk round the bush or thicket where it is at work, without betraying any marks of alarm, and when disturbed, uttering the notes *tow-hè* repeatedly. At times the male mounts to the top of a small tree, and chants his few simple notes for an hour at a time. These are loud, not unmusical, something resembling those of the yellow-hammer of Britain, but more mellow, and more varied. He is fond of thickets with a southern exposure, near streams of water, and where there is plenty of dry leaves ; and is found, generally, over the whole United States. He is not gregarious, and you seldom see more than two together. About the middle or 20th of April, they arrive in Pennsylvania, and begin building about the first week in May. The nest is fixed on the ground

among the dry leaves, near, and sometimes under, a thicket of briers, and is large and substantial. The outside is formed of leaves and pieces of grape-vine bark, and the inside, of fine stalks of dried grass, the cavity completely sunk beneath the surface of the ground, and sometimes half covered above with dry grass or hay. The eggs are usually five, of a pale flesh colour, thickly marked with specks of rufous, most numerous near the great end.

The young are produced about the beginning of June, and a second brood commonly succeeds in the same season. This bird rarely winters north of the State of Maryland, retiring from Pennsylvania to the south about the 12th of October. Yet in the middle districts of Virginia, and thence south to Florida, I found it abundant during the months of January, February, and March. Its usual food is obtained by scratching up the leaves; it also feeds, like the rest of its tribe, on various hard seeds and gravel; but rarely commits any depredations on the harvest of the husbandman, generally preferring the woods, and traversing the bottom of fences sheltered with briers. He is generally very plump and fat; and, when confined in a cage, soon becomes familiar. In Virginia, he is called the bulfinch; in many places, the towhee bird; in Pennsylvania, the chewink, and by others, the swamp robin. He contributes a little to the harmony of our woods in spring and summer; and is remarkable for the cunning with which he conceals his nest. He shews great affection for his young, and the deepest marks of distress on the appearance of their mortal enemy the black snake.

The specific name which Linnæus has bestowed on this bird, is deduced from the colour of the iris of its eye, which, in those that visit Pennsylvania, is dark red. But I am suspicious that this colour is not permanent, but subject to a periodical change. I examined a great number of these birds in the month of March, in Georgia, every one of which had the iris of the eye white. Mr Abbot of Savannah assured me, that at this season, every one of these birds he shot had the iris

white, while at other times it was red ; and Mr Elliot, of Beaufort, a judicious naturalist, informed me, that in the month of February he killed a towhee bunting with one eye red and the other white ! It should be observed, that the iris of the young bird's eye is of a chocolate colour during its residence in Pennsylvania ; perhaps this may brighten into a white during winter, and these may have been all birds of the preceding year, which had not yet received the full colour of the eye.

The towhee bunting is eight inches and a half long, and eleven broad ; above, black, which also descends, rounding on the breast, the sides of which are bright bay, spreading along under the wings ; the belly is white, the vent, pale rufous ; a spot of white marks the wing just below the coverts, and another a little below that extends obliquely across the primaries ; the tail is long, nearly even at the end ; the three exterior feathers white for an inch or so from the tips, the outer one, wholly white, the middle ones, black ; the bill is black ; the legs and feet, a dirty flesh colour, and strong, for scratching up the ground. The female differs in being of a light reddish brown in those parts where the male is black, and in having the bill more of a light horn colour.

SUBGENUS IV.—*COCCOTHRAUSTES*, BRISSON.

180. *FRINGILLA CARDINALIS*, BONAPARTE.

LOXIA CARDINALIS, WILSON. — CARDINAL GROSBEEK.

WILSON, PLATE II. FIG. I. MALE. — FIG. II. FEMALE.

EDINBURGH COLLEGE MUSEUM.

THIS is one of our most common cage birds ; and is very generally known, not only in North America, but even in Europe, numbers of them having been carried over both to France and England, in which last country they are usually called Virginia nightingales. To this name, Dr Latham observes, " they are fully entitled," from the clearness and variety of their notes, which, both in a wild and domestic state, are very various and

musical; many of them resemble the high notes of a fife, and are nearly as loud. They are in song from March to September, beginning at the first appearance of dawn, and repeating a favourite stanza, or passage, twenty or thirty times successively; sometimes, with little intermission, for a whole morning together, which, like a good story too often repeated, becomes at length tiresome and insipid. But the sprightly figure, and gaudy plumage, of the red bird, his vivacity, strength of voice, and actual variety of note, and the little expense with which he is kept, will always make him a favourite.

This species, like the mocking bird, is more numerous to the east of the great range of the Alleghany mountains, and inhabits from New England to Carthage. Michaux the younger, son to the celebrated botanist, informed me, that he found this bird numerous in the Bermudas. In Pennsylvania and the Northern States it is rather a scarce species; but through the whole lower parts of the Southern States, in the neighbourhood of settlements, I found them much more numerous; their clear and lively notes, in the months of January and February, being, at that time, almost the only music of the season. Along the roadsides and fences I found them hovering in half dozens together, associated with snow birds, and various kinds of sparrows. In the Northern States, they are migratory; but in the lower parts of Pennsylvania, they reside during the whole year, frequenting the borders of creeks and rivulets, in sheltered hollows covered with holly, laurel, and other evergreens. They love also to reside in the vicinity of fields of Indian corn, a grain that constitutes their chief and favourite food. The seeds of apples, cherries, and of many other sorts of fruit, are also eaten by them; and they are accused of destroying bees.

In the months of March and April, the males have many violent engagements for their favourite females. Early in May, in Pennsylvania, they begin to prepare their nest, which is very often fixed in a holly, cedar, or laurel bush. Outwardly, it is constructed of small

twigs, tops of dry weeds, and slips of vine bark, and lined with stalks of fine grass. The female lays four eggs, thickly marked all over with touches of brownish olive, on a dull white ground; and they usually raise two brood in the season. These birds are rarely raised from the nest for singing, being so easily taken in trap cages, and soon domesticated. By long confinement, and perhaps unnatural food, they are found to fade in colour, becoming of a pale whitish red. If well taken care of, however, they will live to a considerable age. There is at present in Mr Peale's museum, the stuffed skin of one of these birds, which is there said to have lived in a cage upwards of twenty-one years.

The opinion which so generally prevails in England, that the music of the groves and woods of America is far inferior to that of Europe, I, who have a thousand times listened to both, cannot admit to be correct. We cannot with fairness draw a comparison between the depth of the forest in America, and the cultivated fields of England; because it is a well known fact, that singing birds seldom frequent the former in any country. But let the latter places be compared with the like situations in the United States, and the superiority of song, I am fully persuaded, would justly belong to the western continent. The few of our song birds that have visited Europe extort admiration from the best judges. "The notes of the cardinal grosbeak," says Latham, "are almost equal to those of the nightingale." Yet these notes, clear and excellent as they are, are far inferior to those of the wood thrush; and even to those of the brown thrush, or thrasher. Our inimitable mocking bird is also acknowledged, by themselves, to be fully equal to the song of the nightingale "in its whole compass." Yet these are not one-tenth of the number of our singing birds. Could these people be transported to the borders of our woods and settlements, in the month of May, about half an hour before sunrise, such a ravishing concert would greet their ear as they have no conception of.

The males of the cardinal grosbeak, when confined

together in a cage, fight violently. On placing a looking-glass before the cage, the gesticulations of the tenant are truly laughable; yet with this he soon becomes so well acquainted, that, in a short time, he takes no notice whatever of it; a pretty good proof that he has discovered the true cause of the appearance to proceed from himself. They are hardy birds, easily kept, sing six or eight months in the year, and are most lively in wet weather. They are generally known by the names, red-bird, Virginia red-bird, Virginia nightingale, and crested red-bird, to distinguish them from another beautiful species, the red tanager.

I do not know that any successful attempts have been made to induce these birds to pair and breed in confinement; but I have no doubt of its practicability, by proper management. Some months ago, I placed a young unfledged cow bird (the *fringilla pecoris* of Turton,) whose mother, like the cuckoo of Europe, abandons her eggs and progeny to the mercy and management of other smaller birds, in the same cage with a red-bird, which fed and reared it with great tenderness. They both continue to inhabit the same cage, and I have hopes that the red-bird will finish his pupil's education, by teaching him his song.

I must here again remark, for the information of foreigners, that the story told by Le Page du Pratz, in his *History of Louisiana*, and which has been so often repeated by other writers, that the cardinal grosbeak "collects together great hoards of maize and buckwheat, often as much as a bushel, which it artfully covers with leaves and small twigs, leaving only a small hole for entrance into the magazine," is entirely fabulous.

This species is eight inches long, and eleven in extent; the whole upper parts are a dull dusky red, except the sides of the neck and head, which, as well as the whole lower parts, are bright vermilion; chin, front, and lores, black; the head is ornamented with a high, pointed crest, which it frequently erects in an almost perpendicular position; and can also flatten at

pleasure, so as to be scarcely perceptible; the tail extends three inches beyond the wings, and is nearly even at the end; the bill is of a brilliant coralline colour, very thick and powerful for breaking hard grain and seeds; the legs and feet, a light clay colour (not blood red, as Buffon describes them); iris of the eye, dark hazel. The female is less than the male, has the upper parts of a brownish olive, or drab colour, the tail, wings, and tip of the crest excepted, which are nearly as red as those of the male; the lores, front, and chin are light ash; breast, and lower parts, a reddish drab; bill, legs, and eyes, as those of the male; the crest is shorter, and less frequently raised.

One peculiarity in the female of this species is, that she often sings nearly as well as the male. I do not know whether it be owing to some little jealousy on this score or not, that the male, when both occupy the same cage, very often destroys the female.

181. *FRINGILLA LUDOVICIANA*, BON. — *LOXIA ROSEA*, WILS.

ROSE-BREASTED GROSBEAK.

WILSON, PLATE XVII. FIG II. MALE.

THIS elegant species is rarely found in the lower parts of Pennsylvania; in the State of New York, and those of New England, it is more frequently observed, particularly in fall, when the berries of the sour gum are ripe, on the kernels of which it eagerly feeds. Some of its trivial names would import, that it is also an inhabitant of Louisiana; but I have not heard of its being seen in any of the Southern States. A gentleman of Middleton, Connecticut, informed me, that he kept one of these birds for some considerable time in a cage, and observed that it frequently sung at night, and all night; that its notes were extremely clear and mellow, and the sweetest of any bird with which he is acquainted.

The bird from which the following description was taken, was shot, late in April, on the borders of a

swamp, a few miles from Philadelphia. Another male of the same species was killed at the same time, considerably different in its markings; a proof that they do not acquire their full colours until at least the second spring or summer.

The rose-breasted grosbeak is eight inches and a half long, and thirteen inches in extent; the whole upper parts are black, except the second row of wing-coverts, which are broadly tipped with white; a spot of the same extends over the primaries, immediately below their coverts; chin, neck, and upper part of the breast, black; lower part of the breast, middle of the belly, and lining of the wings, a fine light carmine, or rose colour; tail, forked, black, the three exterior feathers, on each side, white on their inner vanes for an inch or more from the tips; bill, like those of its tribe, very thick and strong, and pure white; legs and feet, light blue; eyes, hazel. The young male of the first spring has the plumage of the back variegated with light brown, white and black; a line of white extends over the eye; the rose colour also reaches to the base of the bill, where it is speckled with black and white. The female is of a light yellowish flaxen colour, streaked with dark olive, and whitish; the breast is streaked with olive, pale flaxen, and white; the lining of the wings is pale yellow; the bill, more dusky than in the male, and the white on the wing less.

182. *FRINGILLA CÆRULEA*, BONAP. — *LOXIA CÆRULEA*, WILS.

BLUE GROSBK.

WILSON, PLATE XXIV. FIG. VI.

THIS solitary and retired species inhabits the warmer parts of America, from Guiana, and probably farther south,* to Virginia. Mr Bartram also saw it during a summer's residence near Lancaster, Pennsylvania. In the United States, however, it is a scarce species; and

* LATHAM, ii. p. 116.

having but few notes, is more rarely observed. Their most common note is a loud *chuck*; they have also at times a few low, sweet toned notes. They are sometimes kept in cages, in Carolina; but seldom sing in confinement. The individual represented in the plate was a very elegant specimen, in excellent order, though just arrived from Charleston, South Carolina. During its stay with me, I fed it on Indian corn, which it seemed to prefer, easily breaking with its powerful bill the hardest grains. They also feed on hemp seed, millet, and the kernels of several kinds of berries. They are timid birds, watchful, silent, and active, and generally neat in their plumage. Having never yet met with their nest, I am unable at present to describe it.

The blue grosbeak is six inches long, and ten inches in extent; lores and frontlet, black; whole upper parts, a rich purplish blue, more dull on the back, where it is streaked with dusky; greater wing-coverts, black, edged at the tip with bay; next superior row, wholly chestnut; rest of the wing, black, skirted with blue; tail, forked, black, slightly edged with bluish, and sometimes minutely tipped with white; legs and feet, lead colour; bill, a dusky bluish horn colour; eye, large, full, and black.

The female is of a dark drab colour, tinged with blue, and considerably lightest below. I suspect the males are subject to a change of colour during winter. The young, as usual with many other species, do not receive the blue colour until the ensuing spring, and, till then, very much resemble the female.

Latham makes two varieties of this species; the first, wholly blue, except a black spot between the bill and eye; this bird inhabits Brazil, and is figured by Brisson, *Ornithology*, iii, 321, No. 6, pl. 17, fig. 2. The other is also generally of a fine deep blue, except the quills, tail, and legs, which are black; this is Edwards's "blue grosbeak, from Angola," pl. 125; which Dr Latham suspects to have been brought from some of the Brazilian settlements, and considers both as mere varieties of the first. I am sorry I cannot clear up this matter.

183. *FRINGILLA PURPUREA*, WILSON AND GMELIN.

PURPLE FINCH.

WILSON, PLATE VII. FIG. IV. MALE, SUMMER DRESS. — PLATE XLII. FIG. III.
MALE, WINTER PLUMAGE.

THIS is a winter bird of passage, coming to us in large flocks from the north, in September and October; great numbers remaining with us in Pennsylvania during the whole winter, feeding on the seeds of the poplar, button-wood, juniper, cedar, and on those of many rank weeds that flourish in rich bottoms, and along the margin of creeks. When the season is very severe, they proceed to the south, as far at least as Georgia, returning north early in April. They now frequent the elm trees, feeding on the slender but sweet covering of the flowers; and as soon as the cherries put out their blossoms, feed almost exclusively on the stamina of the flowers; afterwards the apple blossoms are attacked in the same manner; and their depredations on these continue till they disappear, which is usually about the 10th or middle of May. I have been told, that they sometimes breed in the northern parts of New York State, but have never met with their nests. About the middle of September, I found these birds numerous on Long Island, and round Newark in New Jersey. They fly at a considerable height in the air, and their note is a single *chink*, like that of the rice bird. They possess great boldness and spirit, and, when caught, bite violently, and hang by the bill from your hand, striking with great fury; but they are soon reconciled to confinement, and in a day or two are quite at home. I have kept a pair of these birds upwards of nine months to observe their manners. One was caught in a trap, the other was winged with the gun; both are now as familiar as if brought up from the nest by the hand, and seem to prefer hemp seed and cherry blossoms to all other kinds of food. Both male and female, though not crested, are almost

constantly in the habit of erecting the feathers of the crown; they appear to be of a tyrannical and domineering disposition, for they nearly killed an indigo bird, and two or three others, that were occasionally placed with them, driving them into a corner of the cage, standing on them, and tearing out their feathers, striking them on the head, munching their wings, &c. till I was obliged to interfere; and, even if called to, the aggressor would only turn up a malicious eye to me for a moment, and renew his outrage as before. They are a hardy vigorous bird. In the month of October, about the time of their first arrival, I shot a male, rich in plumage, and plump in flesh, but which wanted one leg, that had been taken off a little above the knee; the wound had healed so completely, and was covered with so thick a skin, that it seemed as though it had been so for years. Whether this mutilation was occasioned by a shot, or in party quarrels of its own, I could not determine; but our invalid seemed to have used his stump either in hopping or resting, for it had all the appearance of having been brought in frequent contact with other bodies harder than itself.

This bird is a striking example of the truth of what I have frequently repeated in this work, that in many instances the same bird has been more than once described by the same person as a different species; for it is a fact which time will establish, that the crimson-headed finch of Pennant and Latham, the purple finch of the same and other naturalists, the hemp bird of Bartram, and the *fringilla rosea* of Pallas, are one and the same, viz. the purple finch, the subject of the present article.

The purple finch is six inches in length, and nine in extent; head, neck, back, breast, rump, and tail-coverts, dark crimson, deepest on the head and chin, and lightest on the lower part of the breast; the back is streaked with dusky; the wings and tail are also dusky black, edged with reddish; the latter a good deal forked; round the base of the bill, the recumbent feathers are of a light clay or cream colour; belly and vent, white;

sides under the wings, streaked with dull reddish; legs, a dirty purplish flesh colour; bill, short, strong, conical, and of a dusky horn colour; iris, dark hazel; the feathers covering the ears are more dusky red than the other parts of the head. This is the male when arrived at his full colours. The female is nearly of the same size, of a brown olive or flaxen colour, streaked with dusky black; the head, seamed with lateral lines of whitish; above and below the hind part of the ear feathers, are two streaks of white; the breast is whitish, streaked with a light flax colour; tail and wings, as in the male, only both edged with dull brown, instead of red; belly and vent, white. This is also the colour of the young during the first, and to at least the end of the second season, when the males begin to become lighter yellowish, which gradually brightens to crimson; the female always retains nearly the same appearance. The young male bird of the first year may be distinguished from the female by the tail of the former being edged with olive green, that of the latter with brown.

It is matter of doubt with me whether this species ought not to be classed with the *loxia*: the great thickness of the bill, and similarity that prevails between this and the pine grosbeak, almost induced me to adopt it into that class. But respect for other authorities has prevented me from making this alteration.

When these birds are taken in their crimson dress, and kept in a cage till they moult their feathers, they uniformly change to their present appearance, and sometimes never after receive their red colour. They are also subject, if well fed, to become so fat as literally to die of corpulency, of which I have seen several instances; being at these times subject to something resembling apoplexy, from which they sometimes recover in a few minutes, but oftener expire in the same space of time.

The female is entirely without red, and differs from the present only in having less yellow about her.

These birds regularly arrive from the north, where they breed, in September, and visit us from the south

again early in April, feeding on the cherry blossoms as soon as they appear.

This bird measures six inches and a quarter in length, and ten inches in extent; the bill was horn coloured; upper parts of the plumage, brown olive, strongly tinged with yellow, particularly on the rump, where it was brownish yellow; from above the eye, backwards, passed a streak of white, and another more irregular one from the lower mandible; feathers of the crown, narrow, rather long, and generally erected, but not so as to form a crest; nostrils and base of the bill, covered with reflected brownish hairs; eye, dark hazel; wings and tail, dark blackish brown, edged with olive; first and second row of coverts, tipped with pale yellow; chin, white; breast, pale cream, marked with pointed spots of deep olive brown; belly and vent, white; legs, brown. This bird, with several others marked nearly in the same manner, was shot, April 25, while engaged in eating the buds from the beech tree.

GENUS XXXIV.—*PYRRHULA*, BRISSON.

184. *PYRRHULA ENUCLEATOR*, TEM.—*LOXIA ENUCLEATOR*, WILSON.

PINE GROSBEAK.

WILSON, PLATE V. FIG. II. YOUNG MALE.—EDINBURGH COLLEGE MUSEUM.

THIS is perhaps one of the gayest land birds that frequent the inhospitable regions of the north, from whence they are driven, as if with reluctance, by the rigours of winter, to visit Canada and some of the northern and middle States; returning to Hudson's Bay so early as April. The specimen from which our description was taken was shot on a cedar tree, a few miles to the north of Philadelphia, in the month of December. A few days afterwards, another bird of the same species was killed not far from Gray's Ferry, four miles south from Philadelphia, which proved to be a female. In this part of the State of Pennsylvania, they are rare birds, and seldom seen. As they do not,

to my knowledge, breed in any part of this State, I am unable, from personal observation, to speak of their manners or musical talents. Mr Pennant says they sing on their first arrival in the country round Hudson's Bay, but soon become silent; make their nest on trees, at a small height from the ground, with sticks, and line it with feathers. The female lays four white eggs, which are hatched in June. Forster observes, that they visit Hudson's Bay only in May, in their way to the north; and are not observed to return in the autumn; and that their food consists of birch-willow buds, and others of the same nature.*

The pine grosbeak measures nine inches in length, and fourteen inches in extent; the head, neck, breast and rump, are of a rich crimson, palest on the breast; the feathers on the middle of the back are centred with arrow-shaped spots of black, and skirted with crimson, which gives the plumage a considerable flush of red there; those on the shoulders are of a deep slate colour, partially skirted with red, and light ash. The greater wing-coverts and next superior row are broadly tipped with white, and slightly tinged with reddish; wings and tail, black, edged with light brown; tail, considerably forked; lower part of the belly, ash colour; vent feathers, skirted with white, and streaked with black; legs, glossy black; bill, a brownish horn colour, very thick, short, and hooked at the point; the upper mandible overhanging the lower considerably, approaching in its form to that of the parrot; base of the bill, covered with recumbent hairs of a dark brown colour. The whole plumage, near the roots, as in most other birds, is of a deep bluish ash colour. The female was half an inch shorter, and answered nearly to the above description; only, those parts that in the male were crimson, were in her of a dirty yellowish colour. The female, according to Forster, referred to above, has those parts which in the male are red, more of an orange tint; and he censures Edwards for having

* *Philosophical Transactions*, lxii, p. 402.

represented the female of too bright a red. It is possible, that my specimen of the female might have been a bird of the first season, not come to its full colours. Those figured by Mr Edwards* were both brought from Hudson's Bay, and appear to be the same with the one now before us, though his colouring of the female differs materially from his description.

If this, as Mr Pennant asserts, be the same species with that of the eastern continent, it would seem to inhabit almost the whole extent of the arctic regions. It is found in the north of Scotland, where Pennant suspects it breeds. It inhabits Europe as far north as Drontheim; is common in all the pine forests of Asia, in Siberia, and the north of Russia; is taken in autumn about Petersburg, and brought to market in great numbers. It returns to Lapland in spring; is found in Newfoundland; and on the western coast of North America.†

Were I to reason from analogy, I would say, that from the great resemblance of this bird to the purple finch, (*fringilla purpurea*,) it does not attain its full plumage until the second summer; and is subject to considerable change of colour in moulting, which may have occasioned all the differences we find concerning it in different authors. But this is actually ascertained to be the case; for Mr Edwards saw two of these birds alive in London, in cages; the person in whose custody they were, said they came from Norway; that they had moulted their feathers, and were not afterwards so beautiful as they were at first. One of them, he says, was coloured very much like the greenfinch, (*F. chlorosis*.) The purple finch, though much smaller, has the rump, head, back, and breast, nearly of the same colour as the pine grosbeak, feeds in the same manner, on the same food, and is also subject to like changes of colour.

* EDWARDS, vol. iii, p. 124.

† PENNANT.

GENUS XXXV.—*LOXIA*, BRISSON.185. *LOXIA CURVIROSTRA*, LINNÆUS.*CURVIROSTRA AMERICANA*, WILSON. — AMERICAN CROSSBILL.

WILSON, PLATE XXXI. FIG. III. YOUNG MALE.

EDINBURGH COLLEGE MUSEUM.

ON first glancing at the bill of this extraordinary bird one is apt to pronounce it deformed and monstrous; but on attentively observing the use to which it is applied by the owner, and the dexterity with which he detaches the seeds of the pine tree from the cone, and from the husks that enclose them, we are obliged to confess, on this, as on many other occasions, where we have judged too hastily of the operations of Nature, that no other conformation could have been so excellently adapted to the purpose; and that its deviation from the common form, instead of being a defect or monstrosity, as the celebrated French naturalist insinuates, is a striking proof of the wisdom and kind superintending care of the great Creator.

This species is a regular inhabitant of almost all our pine forests situated north of 40°, from the beginning of September to the middle of April. It is not improbable that some of them remain during summer within the territory of the United States to breed. Their numbers must, however, be comparatively few, as I have never yet met with any of them in summer; though I took a journey to the Great Pine Swamp beyond Pocano mountain, in Northampton county, Pennsylvania, in the month of May, expressly for that purpose; and ransacked, for six or seven days, the gloomy recesses of that extensive and desolate morass, without being able to discover a single crossbill. In fall, however, as well as in winter and spring, this tract appears to be their favourite rendezvous; particularly about the head waters of the Lehigh, the banks of the Tobyhanna, Tunkhannock, and Bear

Creek, where I have myself killed them at these seasons. They then appear in large flocks, feeding on the seeds of the hemlock and white pine, have a loud, sharp, and not unmusical note; chatter as they fly; alight, during the prevalence of deep snows, before the door of the hunter, and around the house, picking off the clay with which the logs are plastered, and searching in corners where urine or any substance of a saline quality had been thrown. At such times they are so tame as only to settle on the roof of the cabin when disturbed, and a moment after descend to feed as before. They are then easily caught in traps; and will frequently permit one to approach so near as to knock them down with a stick. Those killed and opened at such times are generally found to have the stomach filled with a soft greasy kind of earth or clay. When kept in a cage, they have many of the habits of the parrot; often climbing along the wires; and using their feet to grasp the cones in, while taking out the seeds.

This same species is found in Nova Scotia, and as far north as Hudson's Bay, arriving at Severn river about the latter end of May; and, according to accounts, proceeding farther north to breed. It is added by Pennant, that "they return at the first setting in of frost."

Hitherto this bird has, as usual, been considered a mere variety of the European species; though differing from it in several respects, and being nearly one-third less, and although the singular conformation of the bill of these birds and their peculiarity of manners are strikingly different from those of the grosbeaks, yet many disregarding these plain and obvious discriminations, still continue to consider them as belonging to the genus *loxia*; as if the particular structure of the bill should, in all cases but this, be the criterion by which to judge of a species; or perhaps conceiving themselves the wiser of the two, they have thought proper to associate together what nature has, in the most pointed manner, placed apart.

In separating these birds, therefore, from the grosbeaks, and classing them as a family by themselves,

substituting the specific for the generic appellation, I have only followed the steps and dictates of that great original, whose arrangements ought never to be disregarded by any who would faithfully copy her.

The crossbills are subject to considerable changes of colour; the young males of the present species being, during the first season, olive yellow, mixed with ash; then bright greenish yellow intermixed with spots of dusky olive, all of which yellow plumage becomes, in the second year, of a light red, having the edges of the tail inclining to yellow. When confined in a cage, they usually lose the red colour at the first moulting, that tint changing to a brownish yellow, which remains permanent. The same circumstance happens to the purple finch and pine grosbeak, both of which, when in confinement, exchange their brilliant crimson for a motley garb of light brownish yellow; as I have had frequent opportunities of observing.

The male of this species, when in perfect plumage, is five inches and three quarters long, and nine inches in extent; the bill is a brown horn colour, sharp, and single-edged towards the extremity, where the mandibles cross each other; the general colour of the plumage is a red-lead colour, brightest on the rump, generally intermixed on the other parts with touches of olive; wings and tail, brown black, the latter forked, and edged with yellow; legs and feet, brown; claws, large, much curved, and very sharp; vent, white, streaked with dark ash; base of the bill, covered with recumbent down, of a pale brown colour; eye, hazel.

The female is rather less than the male; the bill of a paler horn colour; rump, tail-coverts, and edges of the tail, golden yellow; wings and tail, dull brownish black; the rest of the plumage, olive yellow mixed with ash; legs and feet, as in the male. The young males, during the first season, as is usual with most other birds, very much resemble the female. In moulting, the males exchange their red for brownish yellow, which gradually brightens into red. Hence, at different seasons, they differ greatly in colour.

186. *LOXIA LEUCOPTERA*, GMELIN. — *CURVIROSTRA LEUCOPTERA*,
WILSON.

WHITE-WINGED CROSSBILL.

WILSON, PLATE. XXXI. FIG. III. YOUNG MALE.

THIS is a much rarer species than the preceding; though found frequenting the same places, and at the same seasons; differing, however, from the former in the deep black wings and tail, the large bed of white on the wing, the dark crimson of the plumage; and a less and more slender conformation of body. The individual of this species mentioned by Turton and Latham, has evidently been shot in moulting time. The present specimen was a male in full and perfect plumage.

The white-winged crossbill is five inches and a quarter long, and eight inches and a quarter in extent; wings and tail, deep black, the former crossed with two broad bars of white; general colour of the plumage, dark crimson, partially spotted with dusky; lores and frontlet, pale brown; vent, white, streaked with black; bill, a brown horn colour, the mandibles crossing each other as in the preceding species, the lower sometimes bending to the right, sometimes to the left, usually to the left in the male, and to the right in the female, of the American crossbill,

FAMILY XV.

COLUMBINI, ILLIGER.

GENUS XXXVI. — *COLUMBA*, LINNÆUS.

SUBGENUS I. — *COLUMBA*, STEPHENS.

187. *COLUMBA CAROLINENSIS*, WILSON.

CAROLINA PIGEON, OR TURTLE DOVE.

WILSON, PLATE XLIII. FIG. 1. — EDINBURGH COLLEGE MUSEUM.

THIS is a favourite bird with all those who love to wander among our woods in spring, and listen to their varied harmony. They will there hear many a singular and sprightly performer; but none so mournful as this. The hopeless wo of settled sorrow, swelling the heart of female innocence itself, could not assume tones more sad, more tender and affecting. Its notes are four; the first is somewhat the highest, and preparatory, seeming to be uttered with an inspiration of the breath, as if the afflicted creature were just recovering its voice from the last convulsive sobs of distress; this is followed by three long, deep, and mournful moanings, that no person of sensibility can listen to without sympathy. A pause of a few minutes ensues, and again the solemn voice of sorrow is renewed as before. This is generally heard in the deepest shaded parts of the woods, frequently about noon and towards the evening.

There is, however, nothing of real distress in all this; quite the reverse. The bird who utters it wantons by the side of his beloved partner, or invites her by his call to some favourite retired and shady retreat. It is the voice of love, of faithful connubial affection, for which the whole family of doves are so celebrated; and, among them all, none more deservingly so than the species now before us.

The turtle dove is a general inhabitant, in summer, of the United States, from Canada to Florida, and from the sea coast to the Mississippi, and far to the westward. They are, however, partially migratory in the Northern and Middle States; and collect together in North and South Carolina, and their corresponding parallels, in great numbers, during the winter. On the 2d of February, in the neighbourhood of Newbern, North Carolina, I saw a flock of turtle doves of many hundreds; in other places, as I advanced farther south, particularly near the Savannah river, in Georgia, the woods were swarming with them, and the whistling of their wings was heard in every direction.

On their return to the north in March, and early in April, they disperse so generally over the country, that there are rarely more than three or four seen together, most frequently only two. Here they commonly fly in pairs, resort constantly to the public roads to dust themselves and procure gravel; are often seen in the farmer's yard before the door, the stable, barn, and other outhouses, in search of food, seeming little inferior in familiarity, at such times, to the domestic pigeon. They often mix with the poultry while they are fed in the morning, visit the yard and adjoining road many times a-day, and the pump, creek, horse trough, and rills for water.

Their flight is quick, vigorous, and always accompanied by a peculiar whistling of the wings, by which they can easily be distinguished from the wild pigeon. They fly with great swiftness, alight on trees, fences, or on the ground indiscriminately; are exceedingly fond of buckwheat, hempseed, and Indian corn; feed on the berries of the holly, the dogwood, and poke, huckleberries, partridgeberries, and the small acorns of the live oak and shrub oak. They devour large quantities of gravel, and sometimes pay a visit to the kitchen garden for peas, for which they have a particular regard.

In this part of Pennsylvania, they commence building about the beginning of May. The nest is very rudely constructed, generally in an evergreen, among the thick

foliage of the vine, in an orchard, on the horizontal branches of an apple tree, and, in some cases, on the ground. It is composed of a handful of small twigs, laid with little art, on which are scattered dry fibrous roots of plants; and in this almost flat bed are deposited two eggs of a snowy whiteness. The male and female unite in feeding the young, and they have rarely more than two brood in the same season.

The flesh of this bird is considered much superior to that of the wild pigeon; but its seeming confidence in man, the tenderness of its notes, and the innocence attached to its character, are, with many, its security and protection; with others, however, the tenderness of its flesh, and the sport of shooting, overcome all other considerations. About the commencement of frost, they begin to move off to the south; numbers, however, remain in Pennsylvania during the whole winter.

The turtle dove is twelve inches long, and seventeen inches in extent; bill, black; eye, of a glossy blackness, surrounded with a pale greenish blue skin; crown, upper part of the neck and wings, a fine silky slate blue; back, scapulars, and lesser wing-coverts, ashy brown; tertials, spotted with black; primaries, edged and tipped with white; forehead, sides of the neck, and breast, a pale brown vinous orange; under the ear-feathers, a spot or drop of deep black; immediately below which the plumage reflects the most vivid tints of green, gold, and crimson; chin, pale yellow ochre; belly and vent, whitish; legs and feet, coral red, seamed with white; the tail is long and cuneiform, consisting of fourteen feathers; the four exterior ones, on each side, are marked with black, about an inch from the tips, and white thence to the extremity; the next has less of the white at the tip; these gradually lengthen to the four middle ones, which are wholly dark slate; all of them taper towards the points, the two middle ones most so.

The female is an inch shorter, and is otherwise only distinguished by the less brilliancy of her colour; she

also wants the rich silky blue on the crown, and much of the splendour of the neck; the tail is also somewhat shorter, and the white, with which it is marked, less pure.

188. *COLUMBA MIGRATORIA*, LINNÆUS AND WILSON.

MIGRATORY PIGEON.

WILSON, PLATE XLIV. FIG. 1. — EDINBURGH COLLEGE MUSEUM.

THIS remarkable bird merits a distinguished place in the annals of our feathered tribes; a claim to which I shall endeavour to do justice; and, though it would be impossible, in the bounds allotted to this account, to relate all I have seen and heard of this species, yet no circumstance shall be omitted with which I am acquainted, (however extraordinary some of these may appear), that may tend to illustrate its history.

The wild pigeon of the United States inhabits a wide and extensive region of North America, on this side of the Great Stony Mountains, beyond which, to the westward, I have not heard of their being seen. According to Mr Hutchins, they abound in the country round Hudson's Bay, where they usually remain as late as December, feeding, when the ground is covered with snow, on the buds of juniper. They spread over the whole of Canada; were seen by Captain Lewis and his party near the Great Falls of the Missouri, upwards of 2,500 miles from its mouth, reckoning the meanderings of the river; were also met with in the interior of Louisiana by Colonel Pike; and extend their range as far south as the Gulf of Mexico; occasionally visiting or breeding in almost every quarter of the United States.

But the most remarkable characteristic of these birds is their associating together, both in their migrations, and also during the period of incubation, in such prodigious numbers, as almost to surpass belief; and which has no parallel among any other of the feathered tribes, on the face of the earth, with which naturalists are acquainted.

These migrations appear to be undertaken rather in quest of food, than merely to avoid the cold of the climate; since we find them lingering in the northern regions, around Hudson's Bay, so late as December; and, since their appearance is so casual and irregular, sometimes not visiting certain districts for several years in any considerable numbers, while at other times they are innumerable. I have witnessed these migrations in the Genesee country, often in Pennsylvania, and also in various parts of Virginia, with amazement; but all that I had then seen of them were mere straggling parties, when compared with the congregated millions which I have since beheld in our western forests, in the States of Ohio, Kentucky, and the Indiana territory. These fertile and extensive regions abound with the nutritious beech nut, which constitutes the chief food of the wild pigeon. In seasons when these nuts are abundant, corresponding multitudes of pigeons may be confidently expected. It sometimes happens that, having consumed the whole produce of the beech trees, in an extensive district, they discover another, at the distance perhaps of sixty or eighty miles, to which they regularly repair every morning; and return as regularly in the course of the day, or in the evening, to their place of general rendezvous, or, as it is usually called, the roosting place. These roosting places are always in the woods, and sometimes occupy a large extent of forest. When they have frequented one of these places for some time, the appearance it exhibits is surprising. The ground is covered to the depth of several inches with their dung; all the tender grass and underwood destroyed; the surface strewn with large limbs of trees, broken down by the weight of the birds clustering one above another; and the trees themselves, for thousands of acres, killed as completely as if girdled with an axe. The marks of this desolation remain for many years on the spot; and numerous places could be pointed out, where, for several years after, scarce a single vegetable made its appearance.

When these roosts are first discovered, the inhabitants

from considerable distances, visit them in the night, with guns, clubs, long poles, pots of sulphur, and various other engines of destruction. In a few hours, they fill many sacks, and load their horses with them. By the Indians, a pigeon roost, or breeding place, is considered an important source of national profit and dependance for that season; and all their active ingenuity is exercised on the occasion. The breeding place differs from the former in its greater extent. In the western countries above mentioned, these are generally in beech woods, and often extend, in nearly a straight line, across the country for a great way. Not far from Shelbyville, in the State of Kentucky, about five years ago, there was one of these breeding places, which stretched through the woods in nearly a north and south direction; was several miles in breadth, and was said to be upwards of forty miles in extent! In this tract, almost every tree was furnished with nests, wherever the branches could accommodate them. The pigeons made their first appearance there about the 10th of April, and left it altogether, with their young, before the 25th of May.

As soon as the young were fully grown, and before they left the nests, numerous parties of the inhabitants, from all parts of the adjacent country, came with wagons, axes, beds, cooking utensils, many of them accompanied by the greater part of their families, and encamped for several days at this immense nursery. Several of them informed me, that the noise in the woods was so great as to terrify their horses, and that it was difficult for one person to hear another speak, without bawling in his ear. The ground was strewn with broken limbs of trees, eggs, and young squab pigeons, which had been precipitated from above, and on which herds of hogs were fattening. Hawks, buzzards, and eagles, were sailing about in great numbers, and seizing the squabs from their nests at pleasure; while, from twenty feet upwards to the tops of the trees, the view through the woods presented a perpetual tumult of crowding and fluttering multitudes of pigeons,

their wings roaring like thunder, mingled with the frequent crash of falling timber; for now the axe-men were at work, cutting down those trees that seemed to be most crowded with nests, and contrived to fell them in such a manner, that, in their descent, they might bring down several others; by which means the falling of one large tree sometimes produced two hundred squabs, little inferior in size to the old ones, and almost one mass of fat. On some single trees, upwards of one hundred nests were found, each containing *one* young only; a circumstance, in the history of this bird, not generally known to naturalists. It was dangerous to walk under these flying and fluttering millions, from the frequent fall of large branches, broken down by the weight of the multitudes above, and which, in their descent, often destroyed numbers of the birds themselves; while the clothes of those engaged in traversing the woods were completely covered with the excrements of the pigeons.

These circumstances were related to me by many of the most respectable part of the community in that quarter; and were confirmed, in part, by what I myself witnessed. I passed for several miles through this same breeding place, where every tree was spotted with nests, the remains of those above described. In many instances, I counted upwards of ninety nests on a single tree; but the pigeons had abandoned this place for another, sixty or eighty miles off towards Green river, where they were said at that time to be equally numerous. From the great numbers that were constantly passing over head to or from that quarter, I had no doubt of the truth of this statement. The mast had been chiefly consumed in Kentucky, and the pigeons, every morning a little before sunrise, set out for the Indiana territory, the nearest part of which was about sixty miles distant. Many of these returned before ten o'clock, and the great body generally appeared, on their return, a little after noon.

I had left the public road to visit the remains of the breeding place near Shelbyville, and was traversing the

woods with my gun, on my way to Frankfort, when, about one o'clock, the pigeons, which I had observed flying the greater part of the morning northerly, began to return, in such immense numbers as I never before had witnessed. Coming to an opening, by the side of a creek called the Benson, where I had a more uninterrupted view, I was astonished at their appearance. They were flying, with great steadiness and rapidity, at a height beyond gun-shot, in several strata deep, and so close together, that, could shot have reached them, one discharge could not have failed of bringing down several individuals. From right to left, far as the eye could reach, the breadth of this vast procession extended, seeming every where equally crowded. Curious to determine how long this appearance would continue, I took out my watch to note the time, and sat down to observe them. It was then half past one. I sat for more than an hour, but, instead of a diminution of this prodigious procession, it seemed rather to increase both in numbers and rapidity; and, anxious to reach Frankfort before night, I rose and went on. About four o'clock in the afternoon I crossed the Kentucky river, at the town of Frankfort, at which time the living torrent above my head seemed as numerous and as extensive as ever. Long after this I observed them, in large bodies, that continued to pass for six or eight minutes, and these again were followed by other detached bodies, all moving in the same southeast direction, till after six in the evening. The great breadth of front which this mighty multitude preserved would seem to intimate a corresponding breadth of their breeding place, which, by several gentlemen, who had lately passed through part of it, was stated to me at several miles. It was said to be in Green county, and that the young began to fly about the middle of March. On the 17th of April, forty-nine miles beyond Danville, and not far from Green River, I crossed this same breeding place, where the nests, for more than three miles, spotted every tree; the leaves not being yet out, I had a fair prospect of them, and was really astonished

at their numbers. A few bodies of pigeons lingered yet in different parts of the woods, the roaring of whose wings was heard in various quarters around me.

All accounts agree in stating, that each nest contains only one young squab. These are so extremely fat, that the Indians, and many of the whites, are accustomed to melt down the fat, for domestic purposes, as a substitute for butter and lard. At the time they leave the nest, they are nearly as heavy as the old ones; but become much leaner, after they are turned out to shift for themselves.

It is universally asserted in the western countries, that the pigeons, though they have only one young at a time, breed thrice, and sometimes four times, in the same season; the circumstances already mentioned render this highly probable. It is also worthy of observation, that this takes place during that period when acorns, beech nuts, &c. are scattered about in the greatest abundance, and mellowed by the frost. But they are not confined to these alone,—buckwheat, hempseed, Indian corn, hollyberries, hackberries, huckleberries, and many others, furnish them with abundance at almost all seasons. The acorns of the live oak are also eagerly sought after by these birds, and rice has been frequently found in individuals killed many hundred miles to the northward of the nearest rice plantation. The vast quantity of mast which these multitudes consume is a serious loss to the bears, pigs, squirrels, and other dependants on the fruits of the forest. I have taken, from the crop of a single wild pigeon, a good handful of the kernels of beech nuts, intermixed with acorns and chestnuts. To form a rough estimate of the daily consumption of one of these immense flocks, let us first attempt to calculate the numbers of that above mentioned, as seen in passing between Frankfort and the Indiana territory: If we suppose this column to have been one mile in breadth, (and I believe it to have been much more,) and that it moved at the rate of one mile in a minute, four hours, the time it continued passing, would make its whole

length two hundred and forty miles. Again, supposing that each square yard of this moving body comprehended three pigeons, the square yards in the whole space, multiplied by three, would give two thousand two hundred and thirty millions, two hundred and seventy-two thousand pigeons!—an almost inconceivable multitude, and yet probably far below the actual amount. Computing each of these to consume half a pint of mast daily, the whole quantity at this rate would equal seventeen millions, four hundred and twenty-four thousand bushels per day! Heaven has wisely and graciously given to these birds rapidity of flight and a disposition to range over vast uncultivated tracts of the earth, otherwise they must have perished in the districts where they resided, or devoured up the whole productions of agriculture, as well as those of the forests.

A few observations on the mode of flight of these birds must not be omitted: The appearance of large detached bodies of them in the air, and the various evolutions they display, are strikingly picturesque and interesting. In descending the Ohio by myself, in the month of February, I often rested on my oars to contemplate their aerial manœuvres. A column, eight or ten miles in length, would appear from Kentucky, high in air, steering across to Indiana. The leaders of this great body would sometimes gradually vary their course, until it formed a large bend, of more than a mile in diameter, those behind tracing the exact route of their predecessors. This would continue sometimes long after both extremities were beyond the reach of sight; so that the whole, with its glittery undulations, marked a space on the face of the heavens resembling the windings of a vast and majestic river. When this bend became very great, the birds, as if sensible of the unnecessary circuitous course they were taking, suddenly changed their direction, so that what was in column before became an immense front, straightening all its indentures, until it swept the heavens in one vast and infinitely extended line. Other lesser bodies also united with each other as they happened to

approach, with such ease and elegance of evolution, forming new figures, and varying these as they united or separated, that I was never tired of contemplating them. Sometimes a hawk would make a sweep on a particular part of the column, from a great height, when, almost as quick as lightning, that part shot downwards out of the common track ; but, soon rising again, continued advancing at the same height as before. This inflection was continued by those behind, who, on arriving at this point dived down, almost perpendicularly, to a great depth, and rising, followed the exact path of those that went before. As these vast bodies passed over the river near me, the surface of the water, which was before smooth as glass, appeared marked with innumerable dimples, occasioned by the dropping of their dung, resembling the commencement of a shower of large drops of rain or hail.

Happening to go ashore one charming afternoon, to purchase some milk at a house that stood near the river, and while talking with the people within doors, I was suddenly struck with astonishment at a loud rushing roar, succeeded by instant darkness, which, on the first moment, I took for a tornado, about to overwhelm the house and every thing around in destruction. The people, observing my surprise, coolly said, " It is only the pigeons ;" and, on running out, I beheld a flock, thirty or forty yards in width, sweeping along very low, between the house and the mountain, or height, that formed the second bank of the river. These continued passing for more than a quarter of an hour, and at length varied their bearing, so as to pass over the mountain, behind which they disappeared before the rear came up.

In the Atlantic States, though they never appear in such unparalleled multitudes, they are sometimes very numerous ; and great havoc is then made amongst them with the gun, the clap net, and various other implements of destruction. As soon as it is ascertained in a town that the pigeons are flying numerously in the neighbourhood, the gunners rise *en masse* ; the clap nets are

spread out on suitable situations, commonly on an open height in an old buckwheat field; four or five live pigeons, with their eyelids sewed up, are fastened on a movable stick; a small hut of branches is fitted up for the fowler, at the distance of forty or fifty yards; by the pulling of a string, the stick on which the pigeons rest is alternately elevated and depressed, which produces a fluttering of their wings similar to that of birds just alighting; this being perceived by the passing flocks, they descend with great rapidity, and, finding corn, buckwheat, &c. strewed about, begin to feed, and are instantly, by the pulling of a cord, covered by the net. In this manner ten, twenty, and even thirty dozen, have been caught at one sweep. Meantime the air is darkened with large bodies of them, moving in various directions; the woods also swarm with them in search of acorns; and the thundering of musketry is perpetual on all sides, from morning to night. Wagon loads of them are poured into market, where they sell from fifty to twenty-five, and even twelve cents, per dozen; and pigeons become the order of the day at dinner, breakfast, and supper, until the very name becomes sickening. When they have been kept alive, and fed for some time on corn and buckwheat, their flesh acquires great superiority; but, in their common state, they are dry and blackish, and far inferior to the full grown young ones, or squabs.

The nest of the wild pigeon is formed of a few dry slender twigs, carelessly put together, and with so little concavity, that the young one, when half grown, can easily be seen from below. The eggs are pure white. Great numbers of hawks, and sometimes the bald eagle himself, hover about those breeding places, and seize the old or the young from the nest amidst the rising multitudes, and with the most daring effrontery. The young, when beginning to fly, confine themselves to the under part of the tall woods where there is no brush, and where nuts and acorns are abundant, searching among the leaves for mast, and appear like a prodigious

torrent rolling along through the woods, every one striving to be in the front. Vast numbers of them are shot while in this situation. A person told me, that he once rode furiously into one of these rolling multitudes, and picked up thirteen pigeons, which had been trampled to death by his horse's feet. In a few minutes, they will beat the whole nuts from a tree with their wings, while all is a scramble, both above and below, for the same. They have the same cooing notes common to domestic pigeons, but much less of their gesticulations. In some flocks you will find nothing but young ones, which are easily distinguishable by their motley dress. In others, they will be mostly females; and again, great multitudes of males, with few or no females. I cannot account for this in any other way than that, during the time of incubation, the males are exclusively engaged in procuring food, both for themselves and their mates; and the young, being unable yet to undertake these extensive excursions, associate together accordingly. But, even in winter, I know of several species of birds who separate in this manner, particularly the red-winged starling, among whom thousands of old males may be found, with few or no young or females along with them.

Stragglers from these immense armies settle in almost every part of the country, particularly among the beech woods, and in the pine and hemlock woods of the eastern and northern parts of the continent. Mr Pennant informs us, that they breed near Moose Fort at Hudson's Bay, in N. lat. 51°, and I myself have seen the remains of a large breeding place as far south as the country of the Chactaws, in lat. 32°. In the former of these places they are said to remain until December; from which circumstance, it is evident that they are not regular in their migrations, like many other species, but rove about, as scarcity of food urges them. Every spring, however, as well as fall, more or less of them are seen in the neighbourhood of Philadelphia; but it is only once in several years that they appear in such

formidable bodies; and this commonly when the snows are heavy to the north, the winter here more than usually mild, and acorns, &c. abundant.

The passenger pigeon is sixteen inches long, and twenty-four inches in extent; bill, black; nostril, covered by a high rounding protuberance; eye, brilliant fiery orange; orbit, or space surrounding it, purplish flesh coloured skin; head, upper part of the neck, and chin, a fine slate blue, lightest on the chin; throat, breast, and sides, as far as the thighs, a reddish hazel; lower part of the neck, and sides of the same, resplendent changeable gold, green, and purplish crimson, the latter most predominant; the ground colour slate; the plumage of this part is of a peculiar structure, ragged at the ends; belly and vent, white; lower part of the breast, fading into a pale vinaceous red; thighs, the same; legs and feet, lake, seamed with white; back, rump, and tail-coverts, dark slate, spotted on the shoulders with a few scattered marks of black; the scapulars, tinged with brown; greater coverts, light slate; primaries and secondaries, dull black, the former tipped and edged with brownish white; tail, long, and greatly cuneiform, all the feathers tapering towards the point, the two middle ones plain deep black, the other five, on each side, hoary white, lightest near the tips, deepening into bluish near the bases, where each is crossed on the inner vane with a broad spot of black, and nearer the root with another of ferruginous; primaries, edged with white; bastard wing, black.

The female is about half an inch shorter, and an inch less in extent; breast, cinereous brown; upper part of the neck, inclining to ash; the spot of changeable gold, green, and carmine, much less, and not so brilliant; tail-coverts, brownish slate; naked orbits, slate coloured; in all other respects like the male in colour, but less vivid, and more tinged with brown; the eye not so brilliant an orange. In both, the tail has only twelve feathers.

SUBGENUS II. — *GOURA*, STEPHENS.189. *COLUMBA PASSERINA*, LINN. AND WILS. — GROUND DOVE.

WILSON, PLATE XLVI. FIG. II. MALE. — FIG. III. FEMALE.

EDINBURGH COLLEGE MUSEUM.

THE ground dove, one of the least of the pigeon tribe, is a native of North and South Carolina, Georgia, the new State of Louisiana, Florida, and the islands of the West Indies. In the latter, it is frequently kept in cages; is esteemed excellent for the table, and honoured by the French planters with the name of ortolan. They are numerous in the sea islands, on the coast of Carolina, and Georgia; fly in flocks or coveys of fifteen or twenty; seldom visit the woods, preferring open fields and plantations; are almost constantly on the ground, and, when disturbed, fly to a short distance, and again alight. They have a frequent jetting motion with the tail; feed on rice, various seeds and berries, particularly those of the toothache tree,* under or near which, in the proper season, they are almost sure to be found. Of their nest, or manner of breeding, I am unable to give any account.

These birds seem to be confined to the districts lying south of Virginia. They are plenty on the upper parts of Cape Fear river, and in the interior of Carolina and Georgia; but I have never met with them, either in Maryland, Delaware, or Pennsylvania. They never congregate in such multitudes as the common wild pigeon; or even as the Carolina pigeon, or turtle dove; but, like the partridge or quail, frequent the open fields in small coveys. They are easily tamed, have a low, tender, cooing note, accompanied with the usual gesticulations of their tribe.

The ground dove is a bird of passage, retiring to the islands, and to the more southerly parts of the continent, on the approach of winter, and returning to its former haunts early in April. It is of a more slender and

* *Xanthoxylum clava Herculis*.

delicate form, and less able to bear the rigours of cold, than either of the other two species common in the United States, both of which are found in the northern regions of Canada, as well as in the genial climate of Florida.

The dove, generally speaking, has long been considered as the favourite emblem of peace and innocence, probably from the respectful manner in which its name is mentioned in various parts of Scripture; its being selected from among all the birds, by Noah, to ascertain the state of the deluge, and returning to the ark, bearing the olive leaf, as a messenger of peace and good tidings; the Holy Ghost, it is also said, was seen to descend like a dove from heaven, &c. In addition to these, there is in the dove an appearance of meekness and innocency very interesting, and well calculated to secure our partiality in its favour. These remarks are applicable to the whole genus; but are more particularly so to the species now before us, as being among the least, the most delicate, and inoffensive of the whole.

The ground dove is six inches and a quarter long; bill, yellow, black at the point; nostril, covered with a prominent membrane, as is usual with the genus; iris of the eye, orange red; front, throat, breast, and sides of the neck, pale vinaceous purple; the feathers, strongly defined by semicircular outlines, those on the throat, centred with dusky blue; crown and hind head, a fine pale blue, intermixed with purple, the plumage, like that on the throat, strongly defined; back, cinereous brown, the scapulars deeply tinged with pale purple, and marked with detached drops of glossy blue, reflecting tints of purple; belly, pale vinaceous brown, becoming dark cinereous towards the vent, where the feathers are bordered with white; wing quills, dusky outwardly, and at the tips; lower sides, and whole interior vanes, a fine red chestnut, which shews itself a little below their coverts; tail, rounded, consisting of twelve feathers, the two middle

ones, cinereous brown, the rest, black, tipped and edged with white; legs and feet, yellow.

The female has the back and tail-coverts of a mouse colour, with little or none of the vinaceous tint on the breast and throat, nor any of the light blue on the hind head; the throat is speckled with dull white, pale clay colour, and dusky; sides of the neck, the same, the plumage strongly defined; breast, cinereous brown, slightly tinged with purple; scapulars, marked with large drops of a dark purplish blood colour, reflecting tints of blue; rest of the plumage, nearly the same as that of the male.

AMERICAN ORNITHOLOGY.

ORDER III.

GALLINÆ, LINNÆUS.

FAMILY XVI.

GALLINACEI, ILLIGER.

GENUS XXXVII.—*PERDIX*, BRISSON.

SUBGENUS *ORTYX*, STEPHENS.

190. *PERDIX VIRGINIANA*, LATHAM AND WILSON.

QUAIL, OR PARTRIDGE.

WILSON, PLATE XLVII. FIG. II. MALE.—EDINBURGH COLLEGE MUSEUM.

THIS well known bird is a general inhabitant of North America, from the northern parts of Canada and Nova Scotia, in which latter place it is said to be migratory, to the extremity of the peninsula of Florida; and was seen in the neighbourhood of the Great Osage village, in the interior of Louisiana. They are numerous in Kentucky and Ohio; Mr Pennant remarks, that they have been lately introduced into the island of Jamaica, where they appear to thrive greatly, breeding in that warm climate twice in the year. Captain Henderson mentions them as being plenty near the Balize, at the Bay of Honduras. They rarely frequent the forest, and are most numerous in the vicinity of well cultivated plantations, where grain is in plenty. They, however, occasionally seek shelter in the woods, perching on the branches, or secreting themselves among the brushwood; but are found most usually in open fields, or along fences sheltered by thickets of briars. Where they are not too much persecuted by the sportsmen, they become almost half domesticated; approach the barn, particularly in winter, and sometimes, in that severe season, mix with the poultry to glean up a subsistence. They remain with us the whole year, and often suffer extremely by long, hard winters, and deep snows. At such times, the arts of man combine with the inclemency of the season for their destruction. To the ravages of

the gun, are added others of a more insidious kind : traps are placed on almost every plantation, in such places as they are known to frequent. These are formed of lath, or thinly split sticks, somewhat in the shape of an obtuse cone, laced together with cord, having a small hole at top, with a sliding lid, to take out the game by. This is supported by the common figure 4 trigger; and grain is scattered below and leading to the place. By this contrivance, ten or fifteen have sometimes been taken at a time. These are sometimes brought alive to market, and occasionally bought up by sportsmen, who, if the season be very severe, sometimes preserve and feed them till spring, when they are humanely turned out to their native fields again, to be put to death at some future time *secundum artem*. Between the months of August and March, great numbers of these birds are brought to the market of Philadelphia, where they are sold from twelve to eighteen cents a-piece.

The quail begins to build early in May. The nest is made on the ground, usually at the bottom of a thick tuft of grass, that shelters and conceals it. The materials are leaves and fine dry grass in considerable quantity. It is well covered above, and an opening left on one side for entrance. The female lays from fifteen to twenty-four eggs, of a pure white, without any spots. The time of incubation has been stated to me, by various persons, at four weeks, when the eggs were placed under the domestic hen. The young leave the nest as soon as they are freed from the shell, and are conducted about in search of food by the female; are guided by her voice, which at that time resembles the twittering of young chickens, and sheltered by her wings, in the same manner as those of the domestic fowl; but with all that secrecy and precaution for their safety, which their helplessness and greater danger require. In this situation, should the little timid family be unexpectedly surprised, the utmost alarm and consternation instantly prevail. The mother throws herself in the path, fluttering along, and beating the ground with her

wings, as if sorely wounded; using every artifice she is master of to entice the passenger in pursuit of herself, uttering at the same time certain peculiar notes of alarm, well understood by the young, which dive separately amongst the grass, and secrete themselves till the danger is over; and the parent, having decoyed the pursuer to a safe distance, returns, by a circuitous route, to collect and lead them off. This well known manœuvre, which nine times in ten is successful, is honourable to the feelings and judgment of the bird, but a severe satire on man. The affectionate mother, as if sensible of the avaricious cruelty of his nature, tempts him with a larger prize, to save her more helpless offspring; and pays him, as avarice and cruelty ought always to be paid, with mortification and disappointment.

The eggs of the quail have been frequently placed under the domestic hen, and hatched and reared with equal success as her own; though, generally speaking, the young partridges, being more restless and vagrant, often lose themselves, and disappear. The hen ought to be a particular good nurse, not at all disposed to ramble, in which case they are very easily raised. Those that survive, acquire all the familiarity of common chickens; and there is little doubt that, if proper measures were taken, and persevered in for a few years, they might be completely domesticated. They have been often kept during the first season, and through the whole of the winter, but have uniformly deserted in the spring. Two young partridges that were brought up by a hen, when abandoned by her, associated with the cows, which they regularly followed to the fields, returned with them when they came home in the evening, stood by them while they were milked, and again accompanied them to the pasture. These remained during the winter, lodging in the stable, but, as soon as spring came, they disappeared. Of this fact, I was informed by a very respectable lady, by whom they were particularly observed.

It has been frequently asserted to me, that the quails

lay occasionally in each other's nests. Though I have never myself seen a case of this kind, I do not think it altogether improbable, from the fact, that they have often been known to drop their eggs in the nest of the common hen, when that happened to be in the fields, or at a small distance from the house. The two partridges above mentioned were raised in this manner; and it was particularly remarked by the lady who gave me the information, that the hen sat for several days after her own eggs were hatched, until the young quails made their appearance.

The partridge, on her part, has sometimes been employed to hatch the eggs of the common domestic hen. A friend of mine, who himself made the experiment, informs me, that, of several hen's eggs which he substituted in place of those of the partridge, she brought out the whole; and that, for several weeks, he occasionally surprised her, in various parts of the plantation, with her brood of chickens; on which occasions she exhibited all that distressful alarm, and practised her usual manœuvres for their preservation. Even after they were considerably grown, and larger than the partridge herself, she continued to lead them about; but, though their notes or call were those of common chickens, their manners had all the shyness, timidity, and alarm of young partridges; running with great rapidity, and squatting in the grass exactly in the manner of the partridge. Soon after this, they disappeared, having probably been destroyed by dogs, by the gun, or by birds of prey. Whether the domestic fowl might not by this method be very soon brought back to its original savage state, and thereby supply another additional subject for the amusement of the sportsman, will scarcely admit of a doubt. But the experiment, in order to secure its success, would require to be made in a quarter of the country less exposed than ours to the ravages of guns, traps, dogs, and the deep snows of winter, that the new tribe might have full time to become completely naturalized, and well fixed in all their native habits.

About the beginning of September, the quails being now nearly full grown, and associated in flocks, or coveys, of from four or five to thirty, afford considerable sport to the gunner. At this time the notes of the male are most frequent, clear, and loud. His common call consists of two notes, with sometimes an introductory one, and is similar to the sound produced by pronouncing the words "Bob White." This call may be easily imitated by whistling, so as to deceive the bird itself, and bring it near. While uttering this, he is usually perched on a rail of the fence, or on a low limb of an apple tree, where he will sometimes sit, repeating, at short intervals, "Bob White," for half an hour at a time. When a covey are assembled in a thicket, or corner of a field, and about to take wing, they make a low twittering sound, not unlike that of young chickens; and, when the covey is dispersed, they are called together again by a loud and frequently repeated note, peculiarly expressive of tenderness and anxiety.

The food of the partridge consists of grain, seeds, insects, and berries of various kinds. Buckwheat and Indian corn are particular favourites. In September and October, the buckwheat fields afford them an abundant supply, as well as a secure shelter. They usually roost at night in the middle of a field on high ground; and from the circumstance of their dung being often found in such places in one round heap, it is generally conjectured that they roost in a circle, with their heads outwards, each individual in this position forming a kind of guard to prevent surprise. They also continue to lodge for several nights in the same spot.

The partridge, like all the rest of the gallinaceous order, flies with a loud whirring sound, occasioned by the shortness, concavity, and rapid motion of its wings, and the comparative weight of its body. The steadiness of its horizontal flight, however, renders it no difficult mark to the sportsman, particularly when assisted by his sagacious pointer. The flesh of this bird

is peculiarly white, tender, and delicate, unequalled, in these qualities, by that of any other of its genus in the United States.

The quail, as it is called in New England, or the partridge, as in Pennsylvania, is nine inches long, and fourteen inches in extent; the bill is black; line over the eye, down the neck, and whole chin, pure white, bounded by a band of black, which descends and spreads broadly over the throat; the eye is dark hazel; crown, neck, and upper part of the breast, red brown; sides of the neck, spotted with white and black on a reddish brown ground; back, scapulars, and lesser coverts, red brown, intermixed with ash, and sprinkled with black; tertials, edged with yellowish white; wings, plain dusky; lower part of the breast and belly, pale yellowish white, beautifully marked with numerous curving spots or arrow-heads of black; tail, ash, sprinkled with reddish brown; legs, very pale ash.

The female differs in having the chin and sides of the head yellowish brown, in which dress it has been described as a different kind. There is, however, only one species of quail at present known within the United States.

GENUS XXXVIII.—*TETRAO*, LINNÆUS.

SUBGENUS I.—*BONASIA*, BONAPARTE.

191. *TETRAO UMBELLUS*, LINNÆUS AND WILSON.

RUFFED GROUSE.

WILSON, PLATE. XLIX.—EDINBURGH COLLEGE MUSEUM.

THIS is the partridge of the Eastern States, and the pheasant of Pennsylvania and the southern districts.

This elegant species is well known in almost every quarter of the United States, and appears to inhabit a very extensive range of country. It is common at Moose Fort, on Hudson's Bay, in lat. 51°; is frequent in the upper parts of Georgia; very abundant in Kentucky and the Indiana territory; and was found

by Captains Lewis and Clarke in crossing the great range of mountains that divide the waters of the Columbia and Missouri, more than three thousand miles, by their measurement, from the mouth of the latter. Its favourite places of resort are high mountains, covered with the balsam pine, hemlock, and such like evergreens. Unlike the pinnated grouse, it always prefers the woods; is seldom or never found in open plains; but loves the pine sheltered declivities of mountains near streams of water. This great difference of disposition in two species, whose food seems to be nearly the same, is very extraordinary. In those open plains called the Barrens of Kentucky, the pinnated grouse was seen in great numbers, but none of the ruffed; while, in the high groves with which that singular tract of country is interspersed, the latter, or pheasant, was frequently met with; but not a single individual of the former.

The native haunts of the pheasant being a cold, high, mountainous and woody country, it is natural to expect that, as we descend from thence to the sea shores, and the low, flat, and warm climate of the Southern States, these birds should become more rare; and such indeed is the case. In the lower parts of Carolina, Georgia, and Florida, they are very seldom observed; but, as we advance inland to the mountains, they again make their appearance. In the lower parts of New Jersey, we indeed occasionally meet with them; but this is owing to the more northerly situation of the country; for even here they are far less numerous than among the mountains.

Dr Turton, and several other English writers, have spoken of a long-tailed grouse, said to inhabit the back parts of Virginia, which can be no other than the present species, there being, as far as I am acquainted, only these two, the ruffed and pinnated grouse, found native within the United States.

The manners of the pheasant are solitary; they are seldom found in coveys of more than four or five together, and more usually in pairs, or singly. They

leave their sequestered haunts in the woods early in the morning, and seek the path or road, to pick up gravel, and glean among the droppings of the horses. In travelling among the mountains that bound the Susquehanna, I was always able to furnish myself with an abundant supply of these birds every morning without leaving the path. If the weather be foggy, or lowering, they are sure to be seen in such situations. They generally move along with great stateliness. The drumming, as it is usually called, of the pheasant, is another singularity of this species. This is performed by the male alone. In walking through solitary woods, frequented by these birds, a stranger is surprised by suddenly hearing a kind of thumping very similar to that produced by striking two full-blown ox-bladders together, but much louder; the strokes at first are slow and distinct; but gradually increase in rapidity, till they run into each other, resembling the rumbling sound of very distant thunder, dying away gradually on the ear. After a few minutes' pause, this is again repeated, and, in a calm day, may be heard nearly half a mile off. This drumming is most common in spring, and is the call of the cock to his favourite female. It is produced in the following manner: The bird, standing on an old prostrate log, generally in a retired and sheltered situation, lowers his wings, erects his expanded tail, contracts his throat, elevates the two tufts of feathers on the neck, and inflates his whole body, something in the manner of the turkey cock, strutting and wheeling about with great stateliness. After a few manoeuvres of this kind, he begins to strike with his stiffened wings in short and quick strokes, which become more and more rapid until they run into each other, as has been already described. This is most common in the morning and evening, though I have heard them drumming at all hours of the day. By means of this, the gunner is led to the place of his retreat; though, to those unacquainted with the sound, there is great deception in the supposed distance, it generally appearing to be much nearer than it really is.

The pheasant begins to pair in April, and builds its nest early in May. This is placed on the ground, at the root of a bush, old log, or other sheltered and solitary situation, well surrounded with withered leaves. Unlike that of the quail, it is open above, and is usually composed of dry leaves and grass. The eggs are from nine to fifteen in number, of a brownish white, without any spots, and nearly as large as those of a pullet. The young leave the nest as soon as hatched, and are directed by the cluck of the mother, very much in the manner of the common hen. On being surprised, she exhibits all the distress and affectionate manœuvres of the quail, and of most other birds, to lead you away from the spot. I once started a hen pheasant with a single young one, seemingly only a few days old; there might have been more, but I observed only this one. The mother fluttered before me for a moment; but, suddenly darting towards the young one, seized it in her bill, and flew off along the surface through the woods, with great steadiness and rapidity, till she was beyond my sight, leaving me in great surprise at the incident. I made a very close and active search around the spot for the rest, but without success. Here was a striking instance of something more than what is termed blind instinct, in this remarkable deviation from her usual manœuvres when she has a numerous brood. It would have been impossible for me to have injured this affectionate mother, who had exhibited such an example of presence of mind, reason, and sound judgment, as must have convinced the most bigoted advocates of mere instinct. To carry off a whole brood in this manner at once would have been impossible, and to attempt to save one at the expense of the rest would be unnatural. She therefore usually takes the only possible mode of saving them in that case, by decoying the person in pursuit of herself, by such a natural imitation of lameness as to impose on most people. But here, in the case of a single solitary young one, she instantly altered her plan, and adopted the most simple and effectual means for its preservation.

The pheasant generally springs within a few yards, with a loud whirring noise, and flies with great vigour through the woods, beyond reach of view; before it alights. With a good dog, however, they are easily found; and at some times exhibit a singular degree of infatuation, by looking down from the branches where they sit, on the dog below, who, the more noise he keeps up, seems the more to confuse and stupify them, so that they may be shot down, one by one, till the whole are killed, without attempting to fly off. In such cases those on the lower limbs must be taken first; for, should the upper ones be first killed, in their fall they alarm those below, who immediately fly off. In deep snows they are usually taken in traps, commonly dead traps, supported by a figure 4 trigger. At this season, when suddenly alarmed, they frequently dive into the snow, particularly when it has newly fallen, and, coming out at a considerable distance, again take wing. They are pretty hard to kill, and will often carry off a large load to the distance of two hundred yards, and drop down dead. Sometimes, in the depth of winter, they approach the farm house, and lurk near the barn, or about the garden. They have also been often taken young, and tamed, so as to associate with the fowls; and their eggs have frequently been hatched under the common hen; but these rarely survive until full grown. They are exceedingly fond of the seeds of grapes; occasionally eat ants, chestnuts, blackberries, and various vegetables. Formerly they were numerous in the immediate vicinity of Philadelphia; but, as the woods were cleared and population increased, they retreated to the interior. At present there are very few to be found within several miles of the city, and those only singly, in the most solitary and retired woody recesses.

The pheasant is in best order for the table in September and October. At this season they feed chiefly on whortleberries, and the little red aromatic partridgeberries; the last of which give their flesh a peculiar delicate flavour. With the former our mountains are literally covered from August to November; and these

constitute, at that season, the greater part of their food. During the deep snows of winter, they have recourse to the buds of alder, and the tender buds of the laurel. I have frequently found their crops distended with a large handful of these latter alone; and it has been confidently asserted, that, after having fed for some time on the laurel buds, their flesh becomes highly dangerous to eat of, partaking of the poisonous qualities of the plant. The same has been asserted of the flesh of the deer, when, in severe weather and deep snows, they subsist on the leaves and bark of the laurel. Though I have myself ate freely of the flesh of the pheasant, after emptying it of large quantities of laurel buds, without experiencing any bad consequences, yet, from the respectability of those, some of them eminent physicians, who have particularized cases in which it has proved deleterious, and even fatal, I am inclined to believe, that, in certain cases, where this kind of food has been long continued, and the birds allowed to remain undrawn for several days, until the contents of the crop and stomach have had time to diffuse themselves through the flesh, as is too often the case, it may be unwholesome and even dangerous. Great numbers of these birds are brought to our markets, at all times, during fall and winter; some of which are brought from a distance of more than a hundred miles, and have been probably dead a week or two, unpicked and undrawn, before they are purchased for the table. Regulations, prohibiting them from being brought to market unless picked and drawn, would, very probably, be a sufficient security from all danger. At these inclement seasons, however, they are generally lean and dry; and, indeed, at all times, their flesh is far inferior to that of the quail, or of the pinnated grouse. They are usually sold, in Philadelphia market, at from three quarters of a dollar to a dollar and a quarter a-pair, and sometimes higher.

The pheasant, or partridge of New England, is eighteen inches long, and twenty-three inches in extent; bill, a horn colour, paler below; eye, reddish

hazel, immediately above which is a small spot of bare skin, of a scarlet colour; crested; head and neck, variegated with black, red brown, white, and pale brown; sides of the neck, furnished with a tuft of large black feathers, twenty-nine or thirty in number, which it occasionally raises; this tuft covers a large space of the neck destitute of feathers; body above, a bright rust colour, marked with oval spots of yellowish white, and sprinkled with black; wings, plain olive brown, exteriorly edged with white, spotted with olive; the tail is rounding, extends five inches beyond the tips of the wings, is of a bright reddish brown, beautifully marked with numerous waving transverse bars of black, is also crossed by a broad band of black, within half an inch of the tip, which is bluish white, thickly sprinkled and specked with black; body below, white, marked with large blotches of pale brown; the legs are covered half way to the feet with hairy down of a brownish white colour; legs and feet, pale ash; toes, pectinated along the sides; the two exterior ones joined at the base, as far as the first joint, by a membrane; vent, yellowish rust colour.

The female, and young birds, differ in having the ruff or tufts of feathers on the neck of a dark brown colour; as well as the bar of black on the tail inclining much to the same tint.

SUBGENUS II. — *TETRAO*, VIEILL.

192. *TETRAO CUPIDO*, LINN. AND WILS. — PINNATED GROUSE.

WILSON, PLATE XXVII. FIG. I. MALE.

BEFORE I enter on a detail of the observations which I have myself personally made on this singular species, I shall lay before the reader a comprehensive and very circumstantial memoir on the subject, communicated to me by the writer, Dr Samuel L. Mitchell, of New York, whose exertions, both in his public and private capacity, in behalf of science, and in elucidating the natural history of his country, are well known, and highly honourable to his distinguished situation and

abilities. That peculiar tract, generally known by the name of the Brushy Plains of Long Island, having been, for time immemorial, the resort of the bird now before us, some account of this particular range of country seemed necessarily connected with the subject, and has, accordingly, been obligingly attended to by the learned professor.

" New York, Sept. 19, 1810.

" DEAR SIR,—It gives me much pleasure to reply to your letter of the 12th instant, asking of me information concerning the grouse of Long Island.

" The birds which are known there emphatically by the name of grouse, inhabit chiefly the forest range. This district of the island may be estimated as being between forty and fifty miles in length, extending from Bethphage, in Queen's County, to the neighbourhood of the court-house, in Suffolk. Its breadth is not more than six or seven. For, although the island is bounded by the Sound separating it from Connecticut on the north, and by the Atlantic Ocean on the south, there is a margin of several miles, on each side, in the actual possession of human beings.

" The region in which these birds reside lies mostly within the towns of Oysterbay, Huntington, Islip, Smithtown, and Brookhaven; though it would be incorrect to say, that they were not to be met with sometimes in Riverhead and Southampton. Their territory has been defined by some sportsmen, as situated between Hempstead Plain on the west, and Shinnecock Plain on the east.

" The more popular name for them is heath-hens. By this they are designated in the act of our legislature for the preservation of them and of other game. I well remember the passing of this law: The bill was introduced by Cornelius J. Bogert, Esq. a member of the Assembly from the city of New York. It was in the month of February, 1791, the year when, as a representative from my native county of Queens, I sat, for the first time, in a legislature.

"The statute declares, among other things, that the person who shall kill any heath-hen within the counties of Suffolk or Queens, between the 1st day of April and the 5th day of October, shall, for every such offence, forfeit and pay the sum of two dollars and a half, to be recovered, with costs of suit, by any person who shall prosecute for the same, before any justice of the peace, in either of the said counties: the one half to be paid to the plaintiff, and the other half to the overseers of the poor; and, if any heath-hen, so killed, shall be found in the possession of any person, he shall be deemed guilty of the offence, and suffer the penalty. But it is provided, that no defendant shall be convicted, unless the action shall be brought within three months after the violation of the law.*

"The country selected by these exquisite birds requires a more particular description. You already understand it to be the midland and interior district of the island. The soil of this island is, generally speaking, a sandy or gravelly loam. In the parts less adapted to tillage, it is more of an unmixed sand. This is so much the case, that the shore of the beaches beaten by the ocean affords a material from which glass has been prepared. Silicious grains and particles predominate in the region chosen by the heath-hens or grouse. Here there are no rocks, and very few stones of any kind. This sandy tract appears to be a dereliction of the ocean, but is, nevertheless, not doomed to total sterility. Many thousand acres have been reclaimed from the wild state, and rendered very productive to man; and within the towns frequented by these birds

* The doctor has probably forgotten a circumstance of rather a ludicrous kind that occurred at the passing of this law, and which was, not long ago, related to me by my friend Mr Gardiner, of Gardiner's Island, Long Island. The bill was entitled, "An Act for the preservation of heath-hen and other game." The honest chairman of the Assembly, no sportsman, I suppose, read the title, "An Act for the preservation of *Heathen* and other game!" which seemed to astonish the northern members, who could not see the propriety of preserving *Indians*, or any other *Heathen*.

there are numerous inhabitants, and among them some of our most wealthy farmers.

“ But within the same limits, there are also tracts of great extent where men have no settlements, and others where the population is spare and scanty. These are, however, by no means, naked deserts: they are, on the contrary, covered with trees, shrubs, and smaller plants. The trees are mostly pitch-pines of inferior size, and white oaks of a small growth. They are of a quality very fit for burning. Thousands of cords of both sorts of fire-wood are annually exported from these barrens. Vast quantities are occasionally destroyed by the fires which, through carelessness or accident, spread far and wide through the woods. The city of New York will probably, for ages, derive fuel from the grouse grounds. The land, after having been cleared, yields to the cultivator poor crops. Unless, therefore, he can help it by manure, the best disposition is to let it grow up to forest again. Experience has proved, that, in a term of forty or fifty years, the new growth of timber will be fit for the axe. Hence it may be perceived, that the reproduction of trees, and the protection they afford to heath-hens, would be perpetual, or, in other words, not circumscribed by any calculable time, provided the persecutors of the latter would be quiet.

“ Beneath these trees grow more dwarfish oaks, overspreading the surface, sometimes with here and there a shrub, and sometimes a thicket. These latter are from about two to ten feet in height. Where they are the principal product, they are called, in common conversation, *brush*, as the flats on which they grow are termed *brushy plains*. Among this hardy shrubbery may frequently be seen the creeping vegetable named the partridgeberry, covering the sand with its lasting verdure. In many spots, the plant which produces hurtleberries sprouts up among the other natives of the soil. These are the more important; though I ought to inform you, that the hills reaching from east to west, and forming the spine of the island, support kalmias, hickories, and many other species; that I have seen azalias

and andromedas, as I passed through the wilderness; and that, where there is water, cranberries, alders, beeches, maples, and other lovers of moisture, take their stations.

“ This region, situated thus between the more thickly inhabited strips or belts on the north and south sides of the island, is much travelled by wagons, and intersected accordingly, by a great number of paths.

“ As to the birds themselves, the information I possess scarcely amounts to an entire history. You, who know the difficulty of collecting facts, will be the most ready to excuse my deficiencies. The information I give you is such as I rely on. For the purpose of gathering the materials, I have repeatedly visited their haunts. I have likewise conversed with several men who were brought up at the precincts of the grouse-ground, who had been witnesses of their habits and manners, who were accustomed to shoot them for the market, and who have acted as guides to gentlemen who go there for sport.

“ *Bulk.*— An adult grouse, when fat, weighs as much as a barn door fowl of moderate size, or about three pounds avoirdupois. But the eagerness of the sportsman is so great, that a large proportion of those they kill are but a few months old, and have not attained their complete growth. Notwithstanding the protection of the law, it is very common to disregard it. The retired nature of the situation favours this. It is well understood that an arrangement can be made which will blind and silence informers, and that the gun is fired with impunity for weeks before the time prescribed in the act. To prevent this unfair and unlawful practice, an association was formed a few years ago, under the title of the *Brush Club*, with the express and avowed intention of enforcing the game law. Little benefit, however, has resulted from its laudable exertions; and under a conviction that it was impossible to keep the poachers away, the society declined. At present the statute may be considered as operating very little towards their preservation. Grouse, especially full grown

ones, are becoming less frequent. Their numbers are gradually diminishing; and, assailed as they are on all sides, almost without cessation, their scarcity may be viewed as foreboding their eventual extermination.

"Price.—Twenty years ago, a brace of grouse could be bought for a dollar. They now cost from three to five dollars. A handsome pair seldom sells in the New York market now-a-days for less than thirty shillings, [three dollars, seventy-five cents,] nor for more than forty, [five dollars.] These prices indicate, indeed, the depreciation of money and the luxury of eating. They prove, at the same time, that grouse are become rare; and this fact is admitted by every man who seeks them, whether for pleasure or for profit.

"Amours.—The season for pairing is in March, and the breeding time is continued through April and May. Then the male grouse distinguishes himself by a peculiar sound. When he utters it, the parts about the throat are sensibly inflated and swelled. It may be heard on a still morning for three or more miles; some say they have perceived it as far as five or six. This noise is a sort of ventriloquism. It does not strike the ear of a bystander with much force, but impresses him with the idea, though produced within a few rods of him, of a voice a mile or two distant. This note is highly characteristic. Though very peculiar, it is termed *tooting*, from its resemblance to the blowing of a conch or horn from a remote quarter. The female makes her nest on the ground, in recesses very rarely discovered by men. She usually lays from ten to twelve eggs. Their colour is of a brownish, much resembling those of a guinea hen. When hatched, the brood is protected by her alone. Surrounded by her young, the mother bird exceedingly resembles a domestic hen and chickens. She frequently leads them to feed in the roads crossing the woods, on the remains of maize and oats contained in the dung dropped by the travelling horses. In that employment they are often surprised by the passengers. On such occasions the dam utters a cry of alarm. The little ones immediately scamper to the brush; and while

they are skulking into places of safety, their anxious parent beguiles the spectator by drooping and fluttering her wings, limping along the path, rolling over in the dirt, and other pretences of inability to walk or fly.

“*Food.*—A favourite article of their diet is the *heath-hen plum*, or partridgeberry before mentioned. They are fond of hurtleberries and cranberries. Worms and insects of several kinds are occasionally found in their crops. But, in the winter, they subsist chiefly on acorns, and the buds of trees which have shed their leaves. In their stomachs have been sometimes observed the leaves of a plant supposed to be a winter green; and it is said, when they are much pinched, they betake themselves to the buds of the pine. In convenient places, they have been known to enter cleared fields, and regale themselves on the leaves of clover; and old gunners have reported, that they have been known to trespass upon patches of buckwheat, and pick up the grains.

“*Migration.*—They are stationary, and never known to quit their abode. There are no facts shewing in them any disposition to migration. On frosty mornings, and during snows, they perch on the upper branches of pine trees. They avoid wet and swampy places, and are remarkably attached to dry ground. The low and open brush is preferred to high shrubbery and thickets. Into these latter places, they fly for refuge when closely pressed by the hunters; and here, under a stiff and impenetrable cover, they escape the pursuit of dogs and men. Water is so seldom met with on the true grouse ground, that it is necessary to carry it along for the pointers to drink. The flights of grouse are short, but sudden, rapid, and whirring. I have not heard of any success in taming them. They seem to resist all attempts at domestication. In this, as well as in many other respects, they resemble the quail of New York, or the partridge of Pennsylvania.

“*Manners.*—During the period of mating, and while the females are occupied in incubation, the males have a practice of assembling, principally by themselves.

To some select and central spot where there is very little underwood, they repair from the adjoining district. From the exercises performed there, this is called a *scratching place*. The time of meeting is the break of day. As soon as the light appears, the company assembles from every side, sometimes to the number of forty or fifty. When the dawn is past, the ceremony begins by a low tooting from one of the cocks. This is answered by another. They then come forth one by one from the bushes, and strut about with all the pride and ostentation they can display. Their necks are incurvated; the feathers on them are erected into a sort of ruff; the plumes of their tails are expanded like fans; they strut about in a style resembling, as nearly as small may be illustrated by great, the pomp of the turkey cock. They seem to vie with each other in stateliness; and, as they pass each other, frequently cast looks of insult, and utter notes of defiance. These are the signals for battles. They engage with wonderful spirit and fierceness. During these contests, they leap a foot or two from the ground, and utter a cackling, screaming, and discordant cry.

“ They have been found in these places of resort even earlier than the appearance of light in the east. This fact has led to the belief that a part of them assemble over night. The rest join them in the morning. This leads to the farther belief, that they roost on the ground. And the opinion is confirmed by the discovery of little rings of dung, apparently deposited by a flock which had passed the night together. After the appearance of the sun, they disperse.

“ These places of exhibition have been often discovered by the hunters; and a fatal discovery it has been for the poor grouse. Their destroyers construct for themselves lurking holes made of pine branches, called *bough houses*, within a few yards of the parade. Hither they repair with their fowling-pieces, in the latter part of the night, and wait the appearance of the birds. Watching the moment when two are proudly eyeing each other, or engaged in battle, or when a

greater number can be seen in a range, they pour on them a destructive charge of shot. This annoyance has been given in so many places, and to such extent, that the grouse, after having been repeatedly disturbed, are afraid to assemble. On approaching the spot to which their instinct prompts them, they perch on the neighbouring trees, instead of alighting at the scratching-place. And it remains to be observed, how far the restless and tormenting spirit of the marksmen may alter the native habits of the grouse, and oblige them to betake themselves to new ways of life.

“ They commonly keep together in coveys, or packs, as the phrase is, until the pairing season. A full pack consists of course of ten or a dozen. Two packs have been known to associate. I lately heard of one whose number amounted to twenty-two. They are so unapt to be startled, that a hunter, assisted by a dog, has been able to shoot almost a whole pack, without making any of them take wing. In like manner, the men lying in concealment near the scratching places, have been known to discharge several guns before either the report of the explosion, or the sight of their wounded and dead fellows, would rouse them to flight. It has farther been remarked, that when a company of sportsmen have surrounded a pack of grouse, the birds seldom or never rise upon their pinions while they are encircled; but each runs along until it passes the person that is nearest, and then flutters off with the utmost expedition.

“ As you have made no inquiry of me concerning the ornithological character of these birds, I have not mentioned it, presuming that you are already perfectly acquainted with their classification and description. In a short memoir written in 1803, and printed in the eighth volume of the *Medical Repository*, I ventured an opinion as to the genus and species. Whether I was correct is a technical matter, which I leave you to adjust. I am well aware that European accounts of our productions are often erroneous, and require revision and amendment. This you must perform.

For me it remains to repeat my joy at the opportunity your invitation has afforded me to contribute somewhat to your elegant work, and at the same time to assure you of my earnest hope that you may be favoured with ample means to complete it.

“SAMUEL L. MITCHELL.”

Duly sensible of the honour of the foregoing communication, and grateful for the good wishes with which it is concluded, I shall now, in farther elucidation of the subject, subjoin a few particulars properly belonging to my own department.

It is somewhat extraordinary that the European naturalists, in their various accounts of our different species of grouse, should have said little or nothing of the one now before us, which, in its voice, manners, and peculiarity of plumage, is the most singular, and, in its flesh, the most excellent, of all those of its tribe that inhabit the territory of the United States. It seems to have escaped Catesby during his residence and different tours through this country, and it was not till more than twenty years after his return to England, viz. in 1748, that he first saw some of these birds, as he informs us, at Cheswick, the seat of the Earl of Wilmington. His lordship said they came from America; but from what particular part, could not tell.* Buffon has confounded it with the ruffed grouse, the common partridge of New England, or pheasant of Pennsylvania (*tetrao umbellus*); Edwards and Pennant have, however, discovered that it is a different species; but have said little of its note, of its flesh, or peculiarities; for, alas! there was neither voice, nor action, nor delicacy of flavour in the shrunk and decayed skin from which the former took his figure, and the latter his description; and to this circumstance must be attributed the barrenness and defects of both.

This rare bird, though an inhabitant of different and very distant districts of North America, is extremely

* CATESBY, *Car.* p. 101, App.

particular in selecting his place of residence ; pitching only upon those tracts whose features and productions correspond with his modes of life, and avoiding immense intermediate regions that he never visits. Open dry plains, thinly interspersed with trees, or partially overgrown with shrub oak, are his favourite haunts. Accordingly we find these birds on the grouse plains of New Jersey, in Burlington county, as well as on the brushy plains of Long Island ; among the pines and shrub oaks of Pocano, in Northampton county, Pennsylvania ; over the whole extent of the Barrens of Kentucky ; on the luxuriant plains and prairies of the Indiana territory, and Upper Louisiana ; and, according to the information of the late Governor Lewis, on the vast and remote plains of the Columbia river : in all these places preserving the same singular habits.

Their predilection for such situations will be best accounted for by considering the following facts and circumstances :—First, their mode of flight is generally direct, and laborious, and ill calculated for the labyrinth of a high and thick forest, crowded and intersected with trunks and arms of trees, that require continual angular evolution of wing, or sudden turnings, to which they are, by no means, accustomed. I have always observed them to avoid the high timbered groves that occur here and there in the Barrens. Connected with this fact, is a circumstance related to me by a very respectable inhabitant of that country, viz. that one forenoon a cock grouse struck the stone chimney of his house with such force, as instantly to fall dead to the ground.

Secondly, their known dislike of ponds, marshes, or watery places, which they avoid on all occasions, drinking but seldom, and, it is believed, never from such places. Even in confinement this peculiarity has been taken notice of. While I was in the State of Tennessee, a person living within a few miles of Nashville had caught an old hen grouse in a trap ; and, being obliged to keep her in a large cage, as she struck and abused the rest of the poultry, he remarked that she never drank, and that she even avoided that quarter of the cage where

the cup containing the water was placed. Happening, one day, to let some water fall on the cage, it trickled down in drops along the bars, which the bird no sooner observed, than she eagerly picked them off, drop by drop, with a dexterity that shewed she had been habituated to this mode of quenching her thirst; and, probably, to this mode only, in those dry and barren tracts, where, except the drops of dew, and drops of rain, water is very rarely to be met with. For the space of a week he watched her closely, to discover whether she still refused to drink; but, though she was constantly fed on Indian corn, the cup and water still remained untouched and untasted. Yet no sooner did he again sprinkle water on the bars of the cage, than she eagerly and rapidly picked them off as before.

The last, and, probably, the strongest inducement to their preferring these plains, is the small acorn of the shrub oak; the strawberries, huckleberries, and partridgeberries, with which they abound, and which constitute the principal part of the food of these birds. These brushy thickets also afford them excellent shelter, being almost impenetrable to dogs or birds of prey.

In all these places where they inhabit, they are, in the strictest sense of the word, resident; having their particular haunts, and places of rendezvous, (as described in the preceding account,) to which they are strongly attached. Yet they have been known to abandon an entire tract of such country, when, from whatever cause it might proceed, it became again covered with forest. A few miles south of the town of York, in Pennsylvania, commences an extent of country, formerly of the character described, now chiefly covered with wood, but still retaining the name of Barrens. In the recollection of an old man born in that part of the country, this tract abounded with grouse. The timber growing up, in progress of years, these birds totally disappeared; and, for a long period of time, he had seen none of them, until, migrating with his family to Kentucky, on entering the Barrens, he, one morning, recognized the well known music of his old acquaintance, the grouse;

which, he assures me, are the very same with those he had known in Pennsylvania.

But what appears to me the most remarkable circumstance relative to this bird, is, that not one of all those writers who have attempted its history, have taken the least notice of two extraordinary bags of yellow skin which mark the neck of the male, and which constitute so striking a peculiarity. These appear to be formed by an expansion of the gullet, as well as of the exterior skin of the neck, which, when the bird is at rest, hangs in loose, pendulous, wrinkled folds, along the side of the neck, the supplemental wings, at the same time, as well as when the bird is flying, lying along the neck. But when these bags are inflated with air, in breeding time, they are equal in size, and very much resemble in colour, a middle sized fully ripe orange. By means of this curious apparatus, which is very observable several hundred yards off, he is enabled to produce the extraordinary sound mentioned above, which, though it may easily be imitated, is yet difficult to describe by words. It consists of three notes, of the same tone, resembling those produced by the night hawks in their rapid descent; each strongly accented, the last being twice as long as the others. When several are thus engaged, the ear is unable to distinguish the regularity of these triple notes, there being, at such times, one continued bumming, which is disagreeable and perplexing, from the impossibility of ascertaining from what distance, or even quarter, it proceeds. While uttering this, the bird exhibits all the ostentatious gesticulations of a turkey cock; erecting and fluttering his neck wings, wheeling and passing before the female, and close before his fellows, as in defiance. Now and then are heard some rapid cackling notes, not unlike that of a person tickled to excessive laughter; and, in short, one can scarcely listen to them without feeling disposed to laugh from sympathy. These are uttered by the males while engaged in fight, on which occasion they leap up against each other, exactly in the manner of

turkeys, seemingly with more malice than effect. This bumming continues from a little before daybreak to eight or nine o'clock in the morning, when the parties separate to seek for food.

Fresh ploughed fields, in the vicinity of their resorts, are sure to be visited by these birds every morning, and frequently also in the evening. On one of these I counted, at one time, seventeen males; making such a continued sound, as, I am persuaded, might have been heard for more than a mile off. The people of the Barrens informed me, that, when the weather became severe, with snow, they approach the barn and farm house, are sometimes seen sitting on the fences in dozens, mix with the poultry, and glean up the scattered grains of Indian corn, seeming almost half domesticated. At such times, great numbers are taken in traps. No pains, however, or regular plan, has ever been persisted in, as far as I was informed, to domesticate these delicious birds. A Mr Reed, who lives between the Pilot Knobs and Bairdstown, told me, that, a few years ago, one of his sons found a grouse's nest with fifteen eggs, which he brought home, and immediately placed below a hen then sitting, taking away her own. The nest of the grouse was on the ground, under a tussock of long grass, formed with very little art, and few materials; the eggs were brownish white, and about the size of a pullet's. In three or four days the whole were hatched. Instead of following the hen, they compelled her to run after them, distracting her with the extent and diversity of their wanderings; and it was a day or two before they seemed to understand her language, or consent to be guided by her. They were let out to the fields, where they paid little regard to their nurse; and, in a few days, only three of them remained. These became extremely tame and familiar, were most expert fly-catchers; but, soon after, they also disappeared.

The pinnated grouse is nineteen inches long, twenty-seven inches in extent, and, when in good order, weighs about three pounds and a half; the neck is furnished with supplemental wings, each composed of eighteen

feathers, five of which are black, and about three inches long; the rest shorter, also black, streaked lateral with brown, and of unequal lengths; the head is slight crested; over the eye is an elegant semicircular comb of rich orange, which the bird has the power of raising or relaxing; under the neck wings, are two loose, pendulous, and wrinkled skins, extending along the side of the neck for two-thirds of its length; each of which, when inflated with air, resembles, in bulk, colour, and surface, a middle sized orange; chin, cream coloured; under the eye runs a dark streak of brown; whole upper parts, mottled transversely with black, reddish brown, and white; tail short, very much rounded, and of a plain brownish soot colour; throat, elegantly marked with touches of reddish brown, white, and black; lower part of the breast and belly, pale brown, marked transversely with white; legs, covered to the toes with hairy down of a dirty drab colour; feet, dull yellow; toes, pectinated; vent, whitish; bill, brownish horn colour; eye, reddish hazel. The female is considerably less; of a lighter colour; destitute of the neck wings, the naked yellow skin on the neck, and the semicircular comb of yellow over the eye.

On dissecting these birds, the gizzard was found extremely muscular, having almost the hardness of a stone; the heart remarkably large; the crop was filled with brier knots, containing the larvæ of some insect, quantities of a species of green lichen, small hard seeds, and some grains of Indian corn.

END OF VOLUME SECOND.

EDINBURGH

Printed by ANDREW SHORTREED, Thistle Lane.

the
at
in;
to,
of
and
a,
the
by

5
2
2

JAN 31 1941

